

Base Process Library

The TickIT *plus* scheme

Version 1.3.0 Released



*IT Quality Management
and Certification*

ISO 9001
ISO/IEC 20000-1
ISO/IEC 27001
PAS 754

ISO/IEC 15504
ISO/IEC 12207
ISO/IEC 15288
ISO 26262



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Preface

TickITplus is today getting more and more popular all over the world. Not only in UK, but also in Sweden, US, Middle East and many other areas this certification scheme is succeeding. TickITplus is the most flexible, multi-level approach to IT quality and certification assessment on the market.

This release of the Base Process Library incorporates the latest version of ISO/IEC 20000-1:2018 and from the last major release of the BPL, also includes ISO 26262 for automotive functional safety, which was included in the interim BPL, V1.2.1.

Work on the continues to evolve the Base Process Library mapping to international standards with candidates being considered such as ISO 15288 & ISO 12207 as formal mappings. These standards were used to create the initial BPL, but it is becoming clear that a precise mapping to the latest version of these would be welcomed. Other standards being considered include the more general safety standard ISO 61508, AS9115 for software in the aerospace sector and IEC 62304 for medical device software.



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Acknowledgements

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BPL V1.3.0

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BPL V1.2.1

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Introduction

1 Overview

This is the baseline document for the TickIT*plus* Base Process Library (BPL), and it is also part of the initial baseline documentation set for TickIT*plus*. It details:

- Scope Profile to process mapping.
- Processes.
- Mapping between requirement and reference standards and processes.

2 Coverage

This version of the BPL provides coverage of ISO 9001:2015, ISO/IEC 20000-1:2011, ISO/IEC 27001:2013, PAS 754, ISO 26262:2011 and ISO/IEC 20000-1:2018 for all 40 TickIT*plus* processes and the eight TickIT*plus* Scope Profiles:

- Information Management and Security.
- Service Management.
- Systems and Software Development and Support.
- Project and Programme Management.
- Corporate Strategy Planning and Management.
- Legal and Compliance.
- Product Validation, Quality and Measurement.
- IT Systems Engineering and Infrastructure.

3 Scope Profiles

Table 1 shows the mapping of Scope Profiles to processes taken from the *TickITplus Core Scheme Requirements*.

The Domain Engineering process is not selected under any Scope Profile and therefore is always a Type C process.

ISO 9001 is the core mandatory standard for the TickIT*plus* scheme and is required in all cases. Therefore, to gain certification under TickIT*plus* there must be an ISO 9001 scope statement and at least 1 associated Scope Profile selected. To include certification for the other standards several rules must be satisfied:

- To include ISO/IEC 20000-1:2011 or ISO/IEC 20000-1:2018 the Service Management Scope Profile must be selected.
- To include ISO/IEC 27001:2013 the Information Management and Security Scope Profile must be selected.
- To include PAS 754 or ISO 26262:2011 the Systems and Software Development and Support Scope Profile must be selected.

These Scope Profiles can exist on their own and still achieve ISO 9001 and the other standards as long as the organization's ISO 9001 scope is in those areas, e.g. the Information Management and Security Scope Profile can exist on its own and achieve ISO/IEC 27001, so long as the organization provides information management and security services or products under its ISO 9001 scope.

4 Use of the process descriptions

It is a requirement of the scheme that the Process Reference Model (PRM) and Process Assessment Model (PAM) are populated with the process contents as described in this document, according to the scope. Once created, both the PRM and PAM must be subject to version control and comply with the requirements of the current scheme baselines, as identified on the TickIT*plus* website, www.tickitplus.org.

Detailed requirements for the make-up of the PRM and PAM are contained in the TickIT*plus* *Core Scheme Requirements* supported by the *Base Process Library Guidance*, which are part of the scheme documentation. However, in summary, for all processes in scope, all base practices and work products must be addressed by the PRM and PAM.

It should be noted that the BPL processes do not repeat the requirements of the referenced clauses of the mapped standards, and, consequently, in implementing an organizational PRM, the requirements of associated clauses in the mapped standards must be considered.

In some cases the work product names are enclosed in square brackets, i.e. []. These aim to illustrate where the input or output work product is an entity or aspect that is not normally considered a work product. For example, the [Commercial Environment] and [Operating Environment] entries represent the environment in which an organization operates, e.g. legal requirements, operating conditions based on culture, accepted practice and economics. Another example is [Identified Stakeholder] which represents groups of people involved in the process.

A change request form is available to cover all TickIT*plus* documentation and can be found on the official TickIT*plus* website.

Table 1: Scope Profile to process mapping

	Type	Group	No	Information Management and Security	Service Management	Systems and S/W Development and Support	Project and Programme Management	Corporate Strategy Planning and Management	Legal and Compliance	Product Validation, Quality and Measurement	IT Systems Engineering and Infrastructure
Human Resource Management	A	ORG	1	✓	✓	✓	✓	✓	✓	✓	✓
Management Framework	A	ORG	2	✓	✓	✓	✓	✓	✓	✓	✓
Corporate Management and Legal	A	ORG	3	✓	✓	✓	✓	✓	✓	✓	✓
Infrastructure and Work Environment Management	A	ORG	4	✓	✓	✓	✓	✓	✓	✓	✓
Improvement	A	ORG	5	✓	✓	✓	✓	✓	✓	✓	✓
Measurement and Analysis	A	ORG	6	✓	✓	✓	✓	✓	✓	✓	✓
Customer Focus	A	ORG	7	✓	✓	✓	✓	✓	✓	✓	✓
Risk Management	A	ORG	8	✓	✓	✓	✓	✓	✓	✓	✓
Programme Management	B/C	ORG	9				✓	✓			
Lifecycle Model Management	B/C	ORG	10			✓	✓				
Resource Management	B/C	ORG	11		✓		✓	✓			✓
Security Management	B/C	ORG	12	✓	✓			✓	✓		
Project Management	B/C	PRJ	1			✓	✓				
Decision Management	B/C	PRJ	2				✓	✓	✓		
Configuration and Change Management	B/C	PRJ	3	✓	✓	✓	✓				✓
Information Management	B/C	PRJ	4	✓	✓			✓	✓		
Problem and Incident Management	B/C	PRJ	5	✓	✓	✓				✓	✓
IT Finance Management	B/C	PRJ	6		✓		✓	✓	✓		
Management Reporting	B/C	PRJ	7		✓		✓	✓	✓		
Data Management	A	TEC	1	✓	✓	✓	✓	✓	✓	✓	✓
Capacity Management	B/C	TEC	2		✓			✓			✓
Integration Management	B/C	TEC	3			✓					
Verification	B/C	TEC	4			✓				✓	
Validation	B/C	TEC	5			✓	✓			✓	
Transition and Release Management	B/C	TEC	6		✓	✓	✓				
Operations Management	B/C	TEC	7	✓	✓			✓			✓
Maintenance Management	B/C	TEC	8								✓
Disposal	B/C	TEC	9	✓	✓				✓		✓
Stakeholder Requirements Definition	B/C	TEC	10	✓	✓	✓	✓			✓	
Requirements Analysis	B/C	TEC	11			✓					
Service Level Management	B/C	TEC	12		✓						✓
Architectural Design	B/C	TEC	13			✓					

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	Type	Group	No	Information Management and Security	Service Management	Systems and S/W Development and Support	Project and Programme Management	Corporate Strategy Planning and Management	Legal and Compliance	Product Validation, Quality and Measurement	IT Systems Engineering and Infrastructure
Development Implementation	B/C	TEC	14			✓					
Continuity, Availability and Contingency Management	B/C	TEC	15	✓	✓			✓			✓
Domain Engineering	C	ITS	1								
Asset Management	B/C	ITS	2	✓	✓			✓			✓
Acquisition and Contract Management	B/C	AGR	1	✓	✓		✓	✓	✓		✓
Supply Management and Business Relationships	B/C	AGR	2	✓	✓		✓		✓		
Quantitative Performance Management	M	MAT	1	✓	✓	✓	✓	✓	✓	✓	✓
Quantitative Process Improvement	M	MAT	2	✓	✓	✓	✓	✓	✓	✓	✓

5 BPL applicability

The table below shows the applicability and impact of the latest version of the BPL. Major changes to Scope Profiles are represented by an ‘M’ and minor changes by an ‘m’.

Table 2: BPL applicability and user impact

BPLB Designation	Information Management and Security	Service Management	Systems and S/W Development and Support	Project and Programme Management	Corporate Strategy Planning and Management	Legal and Compliance	Product Validation, Quality and Measurement	IT Systems Engineering and Infrastructure	Comments
1.1.1			M				M		This is the first release and impacts the two initial Scope Profiles.
1.1.2		M	M	M	M	M	m		This release introduces new Scope Profiles, processes and some amendments to existing processes which therefore affect existing users of the BPL.
1.1.3	M	m	M	M	m	m	m	M	This release introduces the remaining processes along with a few minor changes to existing processes.
1.2.0	M	M	M	M	M	M	M	M	This version introduces mapping and changes to support ISO 9001:2015 ¹ along with mapping and additional outcomes to support PAS 754. ISO 9001:2008 and ISO/IEC 27001:2005 mappings have been removed ² .
1.2.1	m	m	m	M	m	m	m	m	This version introduces ISO 26262:2011 which is optional under the Systems and Software Development and Support Scope Profile. There are a few minor word changes to existing practices affecting TEC.1, TEC.3, TEC.11 & TEC.13 (highlighted). The minor change to TEC.1 Data Management being a Type-A process affects all Scope Profiles. Note that the ISO 2626 standard is split into a number of parts. The clause reference has therefore been created as <part>-<clause>, e.g. ORG.1.BP.2 2-5.4.2.6 refers to clause 5.4.2.6 in part 2. Also not that a number of new Outcomes have been added to address specific ISO 26262 requirements, these are only applicable if ISO 26262 is selected as a certification standard.

1 As a consequence of introducing ISO 9001:2015 there have been a number of changes to the ISO/IEC 27001:2013 mappings to provide better alignment.

2 As this is a major change resulting from the up-issue of ISO 9001, the transition requirements to this version are the same as the transition for ISO 9001:2015. Note, that during the transition period, version 1.1.3 of the BPL remains valid, but the references to ISO/IEC 27001:2005 are now obsolete.

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1.3.0		M						M	This version maps ISO/IEC 20000-1:2018 into the Base Process Library. As this new version of the standard brings ISO/IEC 20000-1 compliant with Annex SL, the majority of the mapping relates to adjusting the clauses although there have been some changes to wording of TEC.12 Service Level Management to make the handling of Service Requests more explicit.
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TickITplus Processes

ORG.1 Human Resource Management

Process ID	ORG.1	Process Name	Human Resource Management			Category	Organizational Processes				Type	A
Process Purpose	To ensure that the resources required to meet the business plan are available.										Version	v4r1
Process Outcome	Process Base Practices		Input Work Products	Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11		
OU.1 Human resources are provided to meet the business plan and no impact from lack of human resources is evident.	BP.1 Establish Human Resource Policies and Procedures Policies are established, approved and communicated that ensure human resources are identified, provided, managed, developed and released. Policies take into account all statutory, regulatory and security requirements. Procedures are defined, approved and made available for use, to implement the human resources polices. The policies and procedures are maintained under the management framework.		Business Plan Management Framework	Human Resource Policies Human Resource Procedures	4.4.1c 4.4.2 7.5	4.3.1	4.4		4.4 7.5.1			
	BP.2 Identify the Required Human Resources Organizational human resource needs are identified based on business needs, including both direct delivery requirements and indirect functional support. Human resource requirements are defined, reviewed, approved and communicated to all stakeholders.		Business Plan Delivery Needs	Human Resource Requirements	4.4.1d 5.1.1e 7.1.1 7.1.2 7.1.5.1	4.4.1 4.5.2g 4.5.4.3c 5.2d 6.4a	5.1g 7.1 8.5.2.1c 8.5.2.2b 9.3j		5.1c 7.1	2- 5.4.2.6		
	BP.3 Satisfy Human Resources Requirements Human resources are made available to meet the business plan using development, recruitment or reduction as appropriate. The recruitment programme is based on organizational policies, delivery needs and recognized business constraints, and is reviewed by top management on a periodic and event driven basis. Recruitment is undertaken according to procedures, and records are maintained. Reduction plans are established, reviewed and approved for the reduction of human resources. When staff leave the organization, identified exit requirements are satisfied, including return of assets and removal of access. Exit assessments are conducted to identify corrective action or improvement opportunities.		Human Resource Requirements	[Human Resources] Improvement Request Recruitment Programme Reduction Plans	4.4.1d 5.1.1e 7.1.1 7.1.2 7.1.5.1	4.1.1e 4.4.1 4.5.3c 5.3c	5.1g 7.1 8.5.2.1c 8.5.2.2b 9.3j		5.1c 7.1 A7.1 A7.3	2- 5.4.2.6		

	<p>BP.4 Allocate Human Resources Human resources are allocated to satisfy the identified needs based on the required resourcing levels, business risks, timescales and compatibility. Where the identified need cannot be fully satisfied, the gap is identified and managed. Roles, responsibilities (including those related to security) and objectives are clearly established and agreed with each human resource in a timely manner.</p>	[Human Resources]	Job Descriptions Organizational Chart	4.4.1e 5.3 8.3.2d 8.5.1e	4.1.3a 4.4.2d 4.5.3b	5.3		5.3 A7.2	2- 5.4.2.1 2- 5.4.2.6 2- 5.4.2.8 2- 6.4.2.1 2- 6.4.2.2 2- 7.4.2.1
	<p>BP.5 Induct Human Resources Individual induction programmes are defined, approved and provided to all new human resources and human resources that have changed roles. Induction records are maintained. The effectiveness of the induction programmes is measured, and where needed, corrections and improvements are made.</p>	[Human Resources]	Corrective Action Request Improvement Request Induction Programmes Induction Records	7.1.6 7.2 7.3 8.5.1g	4.3.3 4.4.2	7.2d 7.6	PE.02	7.1 7.2 7.3 A7.2	2- 5.4.3.1
	<p>BP.6 Assess Human Resource Performance Assessment criteria are identified, approved and used as part of the assessment. Human resources are formally assessed on a periodic and event driven basis to provide feedback from line management, set specific objectives and determine development needs. Mutually agreed records of assessments are confidentially maintained.</p>	[Human Resources] Assessment Criteria	Assessment Record Development Needs	7.1.6 7.2 8.5.1g	4.4.2	7.2 7.2d 7.6	PE.02	7.1 7.2	2- 5.4.2.1 2- 5.4.3.1
	<p>BP.7 Develop Human Resources Human resource development needs are identified on a periodic and event driven basis to satisfy business needs. Development plans are defined and approved to satisfy the identified needs. The effectiveness of human resource development is measured. Where needed, corrections and improvements to the development approach are made.</p>	[Human Resources] Business Needs Delivery Needs Development Needs	Development Records Improvement Request	7.1.6 7.2 8.5.1g 10.3	4.4.2	7.2 7.6	PE.02	7.1 7.2 10.2 A7.3	2- 5.4.3.1
OU.2 The organization has externally recognized subject matter experts.	<p>BP.8 Benefit from the Subject Matter Expert A network is established of internal subject matter experts, listing their area of expertise and mode of support. The network is supported by a defined mechanism to support the exchange of information between the subject matter experts and the organization. Subject matter experts are encouraged and supported to promote their recognized knowledge externally, to enhance the reputation of the organization.</p>	[Human Resources] Job Descriptions Organizational Chart	Assessment Record Development Records				PE.01		

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<p>OU.3 The organization recognizes the role of Safety Manager, and safety-related aspects are effectively prioritised according to their safety goals</p>	<p>BP.9 A Safety Manager is Appointed A competent resource or resources with the appropriate level of skills and qualifications is appointed and takes responsibility for the planning and coordination of safety activities. Safety concepts, practices and processes are driven and maintained by the appointed resource(s) and are fully embedded within the organization.</p>	<p>Safety Plan</p>	<p>Development Records Job Descriptions Organizational Chart</p>						<p>2- 5.4.3.1 2-6.3.1 2- 6.4.2.4 2- 6.4.3.2 2- 6.4.3.8</p>
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ORG.2 Management Framework

Process ID	ORG.2	Process Name	Management Framework	Category	Organizational Processes						Type	A
Process Purpose	To establish a formal system of policies, processes, procedures, lifecycle models and reviews.									Version	v4r1	
Process Outcome	Process Base Practices		Input Work Products	Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11		
OU.1 The organization achieves business goals and objectives through the implementation of an effective management framework.	BP.1 Establish Management Framework Policies Policies are established, approved and communicated to ensure that the management framework is implemented, communicated and understood throughout the organization to achieve the business plan. Policies are communicated so all staff understand how their roles and responsibilities contribute to achieving the business needs and objectives. Policies are periodically reviewed and updated in line with the business plan. The policies are maintained under the management framework.		Management Framework	Policies	4.4.1c 4.4.2 5.2.1 5.2.2 7.3a 7.4 7.5	4.1.1a 4.1.2 4.3.1a 4.5.5.1 4.5.5.2c 5.3f 6.4 6.6.1	4.4 5.1a 5.1b 5.2 5.2.1 7.4 8.5.1.1 8.7.3.1		4.4 5.2 7.3a 7.4 7.5	2- 5.4.2.1 2- 5.4.2.2		
	BP.2 Establish an Integrated Management System (IMS) An IMS is established that consists of defined lifecycles, processes, procedures, standards and supporting documentation to ensure effective implementation of policies. The scope of the IMS and the interaction between the elements of the IMS are documented. Objectives are appropriately established throughout the organization to understand the performance of the Integrated Management System The IMS is deployed through formal training, coaching and regular communication that ensures the organization supports the effective implementation and operation of the IMS, and appreciates the potential consequences of not doing so. The latest applicable version of the IMS is made readily accessible to all staff.		Management Framework Policies	Integrated Management System	4.3 4.4 5.1.1h 7.3 7.4 7.5	4.1.1 4.3.1 4.3.2 4.4.2b 4.5.1 4.5.2 5.3f 5.3h 5.4	4.3 4.4 5.1a 6.2.1 6.2.2 7.3 7.4 7.5.1 7.5.4e 8.1	CM.02	4.3 4.4 5.1f 7.3 7.4 7.5 A5.1	2- 5.4.2.2 2- 5.4.2.3 2- 5.4.4.1 2-6.3.1		
	BP.3 Audit IMS Compliance Audits are undertaken objectively to ensure conformance to requirements and effective implementation of the IMS. Audits are planned and scheduled in line with the impact, importance and risk of the activities being performed, including consideration of previous audit findings. The audit findings are recorded and communicated to all stakeholders for subsequent remedial and corrective actions. All actions are tracked to closure, and records maintained.		Audit Finding Audit Schedule	Audit Finding Audit Report Audit Schedule	9.2	4.3.3 4.5.4.1 4.5.4.2 4.5.4.3f 4.5.4.3h	8.1 8.2.3.2 9.2 10.1	CM.02	9.2 A12.7	2- 5.4.2.3 2-6.4.8		
	BP.4 Collect Analyse and Use Measures Measures are collected, analysed and used to report, review and improve the effectiveness and implementation of the IMS. Measures cover the level of implementation (adoption and compliance) and effectiveness of the IMS. The measures are analysed and reported. Actions are raised to address adverse conditions and to propose improvements.		Measurement and Analysis Data Process Measures	Corrective Action Request Improvement Request Process Analysis Report	4.4.1g 4.4.2b 5.1.1g 8.5.1c 9.1.3 10	4.5.4.1 4.5.5.2 6.1 6.2 6.4 7.2		CM.02	4.4 5.1e 5.1g 9.1 10			

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<p>BP.5 Schedule and Hold Reviews</p> <p>Periodic reviews are held to check the effectiveness and performance of the IMS, to identify preventive actions and to make recommendations for improvements.</p> <p>Reviews are undertaken at appropriate levels within the organization.</p>	Audit Report	Business Needs	5.1.1g	4.1.1f	9.1	CM.02	5.1e	
	Business Plan	Business Objectives	5.1.1i	4.3.3	9.3		5.1g	
	Improvement Request	Human Resource Requirements	9.1	4.5.4.1	10.2		9.3	
	Process Analysis Report	Improvement Request	9.2	4.5.4.3			10	
	Review Records	Infrastructure Requirements	9.3				A18.2	
	Risk Reports	Review Records	10					
	Supplier Performance Report	Work Environment Requirements						

ORG.3 Corporate Management and Legal

Process ID	ORG.3	Process Name	Corporate Management and Legal			Category	Organizational Processes					Type	A
Process Purpose	To provide top-level management of business needs, objectives and performance within a legal framework.										Version	v4r1	
Process Outcome	Process Base Practices		Input Work Products	Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11			
OU.1 Top management is fully engaged in the operation of the business, and overall performance is improving.	BP.1 Identify Business Needs and Objectives The organization identifies a clear description of overall business needs and objectives that can be implemented within the statutory and regulatory frameworks and commercial environment in which the organization operates. The internal and external factors that influence and affect the organization's ability to deliver products and services are identified and understood.		[Commercial Environment] [Operating Framework] [Stakeholders] Statutory and Regulatory Requirements	Business Needs Business Objectives	4.1 4.2 6.2	4.1.1a 4.3.1a 4.5.2a 4.5.4.3 4.5.5.2a	4.1 4.2 6.2.1	GV.01	4.1 4.2 6.2				
	BP.2 Establish Business Plan A business plan is prepared to define, communicate and implement the strategies necessary to meet business needs and objectives throughout the organization, including consideration of the internal and external influences and factors. The business plan details corporate responsibilities, accountabilities and authorities, along with their dependencies and interaction. The business plan is reviewed at least annually, and as required, to address changes in the operating framework, commercial environment, or statutory and regulatory requirements.		Business Needs Business Objectives Risks	Business Plan	4.3 5.1.1 5.1.2 5.3 6.2.2 7.5	4.1.1d 4.1.3a 4.1.4	4.3 5.1c 5.1d 5.1f 5.3 6.2.2 6.3		4.3 5.1 5.3 6.2 7.5				
	BP.3 Establish and Communicate the Management Framework A management framework is established to enable the organization to meet business needs and objectives according to the business plan. The management framework comprises policies, objectives, communication channels, reviews and resources including authorities, responsibilities and roles. The purpose and intent of the Management Framework is communicated throughout the organization to provide adequate awareness of the benefits of effective implementation and potential consequences of ineffective implementation.		Business Plan	Management Framework	4.4 5.1 5.2 5.3 7.3 7.4	4.1.2 4.1.3b 4.5.2d	4.4 5.1 5.1a 5.1b 5.1h 5.2.1 5.2.2 5.3 6.2.1 7.3 7.4 7.5.4a 7.5.4b		4.4 5.1 5.2 5.3 7.3 7.4	2-5.4.2.2 2-5.4.4.1			

	<p>BP.4 Manage the Organization</p> <p>Top management ensures all financial, material, service and human resources necessary to operate the business are made available, consistent with the business plan.</p> <p>Organizational activities are undertaken according to the processes and procedures laid down in the Integrated Management System (IMS).</p>	<p>Business Plan</p> <p>Management Framework</p>	<p>Business Results</p> <p>Human Resource Requirements</p> <p>Infrastructure Requirements</p> <p>Work Environment Requirements</p>	<p>5.1</p> <p>7.1.1</p> <p>7.1.2</p> <p>7.1.3</p> <p>7.1.4</p>	<p>4.1.1b</p> <p>4.1.1c</p> <p>4.1.1e</p> <p>4.1.4</p> <p>4.5.3a</p> <p>6.1</p>	<p>5.1</p> <p>5.1g</p> <p>5.1j</p> <p>5.1l</p> <p>7.0</p> <p>7.1</p> <p>8.1</p> <p>8.2.1</p> <p>8.2.3</p>		<p>5.1</p> <p>7.1</p>	<p>2-5.4.2.2</p> <p>2-5.4.2.3</p> <p>2-5.4.2.5</p>
	<p>BP.5 Manage Business Performance</p> <p>Top management regularly monitors the Management Framework performance against the business plan, and reviews the effectiveness of the IMS in achieving business needs and objectives.</p> <p>Customer feedback, measures, and risks are identified, analysed and reviewed.</p> <p>Planned action is taken to improve the Management Framework where performance deviates from the business plan, or the IMS is not effective in meeting business needs and objectives.</p> <p>Records of monitoring and review are maintained.</p>	<p>Business Plan</p> <p>Business Results</p> <p>Customer Feedback</p> <p>Measurement and Analysis Data</p> <p>Risks</p>	<p>Business Needs</p> <p>Business Objectives</p> <p>Corrective Action Request</p> <p>Improvement Request</p> <p>Management Framework</p> <p>Monitoring Records</p> <p>Review Records</p> <p>Risk Mitigation Actions</p>	<p>5.1.1</p> <p>5.1.2</p> <p>6.1</p> <p>6.2</p> <p>6.3</p> <p>9.3</p> <p>10</p>	<p>4.1.1f</p> <p>4.1.1g</p> <p>4.3.3</p> <p>4.5.4.1</p> <p>4.5.4.3</p>	<p>5.1i</p> <p>5.1k</p> <p>8.2.3.2</p> <p>9.3</p> <p>A18.2</p>	<p>CM.02</p>	<p>5.1</p> <p>6.1</p> <p>9.3</p> <p>10</p> <p>A18.2</p>	<p>2-5.4.2.2</p>
<p>OU.2</p> <p>Top management clearly understand the implication of delivering trustworthy products, and there is no organizational exposure.</p>	<p>BP.6 Understand the Environment for Trust</p> <p>The organization has a risk managed approach for the consideration of factors that influence the trustworthiness of the products. These include as a minimum the needs for assurance, privacy and the special factors relating to cryptography.</p> <p>This understanding is reconsidered and maintained on an ongoing basis.</p>	<p>[Situational Awareness]</p> <p>Statutory and Regulatory Requirements</p>	<p>Management Framework</p> <p>Risks</p>				<p>GV.02</p>		
	<p>BP.7 Implement a Management Framework to Control Trust</p> <p>The framework ensures that organizational groups involved in the provision of trustworthy products are established such that appropriate checks and balances are in place.</p> <p>A Trustworthy Software Release Authority role is identified from higher management to take organizational responsibility for ensuring trustworthy products and services. The role ensures that all third party products are formally accepted.</p>	<p>Management Framework</p> <p>Risks</p>	<p>Job Descriptions</p> <p>Organizational Chart</p>				<p>GV.03</p>		
<p>OU.3</p> <p>Top management are committed to a safety culture, and there are no safety related incidents</p>	<p>BP.8 Establish a safety culture in the organization</p> <p>The organization has an embedded approach which puts safety as the highest priority and where defined, traceable and controlled process are in place; which all staff are aware of and adhere to.</p> <p>The safety related decision-making process is clear, and any compliance issues are highlighted to the Safety Manager in a timely manner.</p>	<p>Management Framework</p>	<p>Issues</p> <p>Risks</p>						<p>2-5.4.2</p>

ORG.4 Infrastructure and Work Environment Management

Process ID	ORG.4	Process Name	Infrastructure and Work Environment Management	Category	Organizational Processes					Type	A
Process Purpose	To provide the infrastructure, services and working environment to support organizational activities.								Version	v4r1	
Process Outcome	Process Base Practices	Input Work Products	Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11		
OU.1 Infrastructure is made available, and organizational activities are not impaired by issues relating to the infrastructure or work environment.	BP.1 Establish Infrastructure and Working Environment Policies Policies for managing the infrastructure and work environment are established, approved and communicated, to satisfy the business plan. Policies take into account all statutory, regulatory and security requirements for the infrastructure and work environment. The policies are maintained under the management framework.	Business Plan Management Framework	Infrastructure and Work Environment Policies	4.4.1c 4.4.2 7.5	4.1.4d 4.3.1c	4.4		4.4 7.5 A9.1 A9.4 A11.1 A11.2 A13.1			
	BP.2 Identify Infrastructure and Work Environment Needs The organization identifies and engages with stakeholders to gain a clear understanding of the required infrastructure and environmental conditions needed to support business objectives. Infrastructure and work environment requirements are documented in a way that provides clear understanding and visibility to all stakeholders.	Business Plan Delivery Needs Infrastructure and Work Environment Policies	Infrastructure Requirements Work Environment Requirements	4.4.1d 5.1.1e 7.1.3 7.1.4 7.1.5.1 7.1.5.2 8.5.1b	4.4.1 4.5.1c 4.5.2g 4.5.4.3c 5.2d 5.3e 5.3k	7.1		5.1c 7.1 A11.1 A11.2 A12.1	2-5.4.2.6		
	BP.3 Establish and Manage Infrastructure The infrastructure is established in accordance with the work environment requirements, verified and validated to ensure that it satisfies the identified requirements. The infrastructure is maintained under configuration and change management. The work environment is monitored and the infrastructure managed to ensure that it continues to meet identified business needs.	Infrastructure Requirements Work Environment Requirements	[Infrastructure and Work Environment] Infrastructure and Work Environment Description	7.1.3 7.1.4 7.1.5.1 7.1.5.2 8.5.1b 8.5.1d	4.4.1 4.5.3c 4.5.4.3c	7.1	PH.01 PH.02	7.1 A11.1 A11.2 A12.2 A12.3	2-5.4.2.6 2-6.4.7.3		
	BP.4 Disposal of Infrastructure Disposal of redundant infrastructure and equipment is managed to ensure compliance with environmental, regulatory and legal requirements. Records of disposal are maintained.	[Infrastructure and Work Environment] Infrastructure and Work Environment Policies	Disposal Records	7.1.3 7.1.4	4.1.4d 5.2	7.1		7.1 A11.1 A11.2			

ORG.5 Improvement

Process ID	ORG.5	Process Name	Improvement	Category	Organizational Processes						Type	A
Process Purpose	To continually improve the effectiveness and efficiency of the organization in achieving its business objectives.									Version	v4r1	
Process Outcome	Process Base Practices		Input Work Products	Output Work Products		ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11	
OU.1 Improvement is undertaken, and the organization achieves verifiable business benefits.	BP.1 Establish Policy and Procedures for Improvement A policy for improvement is established, approved and communicated for implementing improvements. Procedures are defined, approved and made available for use. The procedures cover the identification, selection, analysis, planning, monitoring and review of improvements. The policy and procedures are maintained under the management framework.		Business Plan Management Framework	Corrective Action Procedure Improvement Policy Improvement Procedure Preventive Action Procedure	4.4.1c 4.4.2 5.2.1d 7.5	4.1.2c 4.3.1 4.5.5.1	4.4		4.4 5.2d 7.5	2-5.4.2.7		
	BP.2 Analyse Improvement Opportunities Improvement opportunities are analysed and selected on the basis of feasibility, cost and benefit. Selected improvement opportunities are prioritized and aligned against existing improvement plans. The approach to implementing the improvement opportunities is defined, and the benefits are expressed such that they can be verified.		Improvement Request	Improvement Approach Tracking System Records	4.4.1h 5.1.1i 6.1.1 9.1.3g 9.3.3a 10	4.5.4.3j 6.1 7.1 8.1 9.2 9.3	6.1.1c 8.2.3.1 8.3.2 8.3.3 8.3.4.1 8.3.4.2 8.5.1.3 8.5.3 8.6.1 8.7.3.3 9.3 10.2		4.4 5.1g 6.1.1 7.5.3 9.3 10 A16.1	2-5.4.2.7		
	BP.3 Implement the Improvements An improvement plan is established that identifies the objectives, actions, resources, responsibilities, and timescales for completion of the selected improvements. The plan covers both the activities necessary to implement the improvements and to verify the resulting benefits. The improvement plan is verified, approved and implemented.		Improvement Approach	Improvement Plan	4.4.1h 5.1.1i 6.1.1d 10	4.1.4b 4.5.5.2	6.1.1c 10.2		4.4 5.1g 10 A16.1	2-5.4.2.7		
	BP.4 Monitor and Review The improvement plan is monitored, and action taken to ensure that improvement objectives are achieved. Completed improvements are reviewed to verify that the planned benefits have been achieved.		Improvement Plan	Improvement Verification Record	4.4.1h 5.1.1i 6.1.1 9.3.2f 10	4.5.4.3j 4.5.5.2	6.1.3 10.2		4.4 5.1g 9.3 10 A16.1	2-5.4.2.7		

ORG.6 Measurement and Analysis

Process ID	ORG.6	Process Name	Measurement and Analysis	Category	Organizational Processes					Type	A
Process Purpose	To provide information to enable better decision-making.								Version	v4r1	
Process Outcome	Process Base Practices	Input Work Products		Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11	
OU.1 Measurements are used to demonstrate achievement of business objectives, to support decisions and identify improvement.	BP.1 Define Measurement and Analysis Policy and Procedures A policy is established, approved and communicated to ensure that measures are identified, collected, analysed, reported and used, to support the achievement of the business plan. Procedures are defined for developing measures against key business objectives, to understand performance. The procedures define the method for identifying, collecting, storing, analysing and using measures. The policy and procedures are maintained under the management framework.	Business Plan Management Framework	Measurement and Analysis Policy Measurement and Analysis Procedures	4.4.1c 4.4.2 7.5 9.1.1	4.3.1 4.5.2l	4.4		4.4 7.5 9.1			
	BP.2 Identify Measurement Objectives and Data The organization establishes where measures are necessary and identifies the objectives and data sources necessary to achieve them. The objectives and data sources are reviewed and agreed by stakeholders.	Business Objectives Business Plan	Measurement Data Sources Measurement Objectives	4.4.1c 6.2.1 7.1.5.2 8.2.1a 8.5.1a 8.5.1b 9.1.1	4.1.1a 4.5.2a 4.5.2l 4.5.5.2a 5.2j 5.3k 6.1	8.1 8.2.3.2 9.1	CM.02	6.2 9.1	6-10.4.6		
	BP.3 Collect and Analyse Measurement Data Measurement data is collected and stored in line with the collection method. The measurement data is validated, and any need for additional measurement is identified. The measurement data is analysed to provide indicators and recommendations to stakeholders.	Measurement Data Sources Measurement Objectives	Measurement and Analysis Data Measurement and Analysis Report	7.1.5.2 9.1.3	4.5.3f 4.5.4.3b 4.5.5.2d 6.2 9.2 9.3	9.1	CM.02	9.1	6-10.4.6		
	BP.4 Use Measurement Information Stakeholders review the indicators and recommendations. Actions are put in place to implement agreed recommendations, which are documented and tracked to completion.	Measurement and Analysis Report	Corrective Action Request Improvement Request Preventive Action Request	4.4.1g 9.1.3 9.3.2c 10	6.2 9.2 9.3	9.1 9.3	CM.02 CM.02	9.3 10	6-10.4.6		

ORG.7 Customer Focus

Process ID	ORG.7	Process Name	Customer Focus	Category	Organizational Processes						Type	A
Process Purpose	To establish and manage a positive relationship with the customer by understanding their business needs, objectives and expectations.									Version	v4r0	
Process Outcome	Process Base Practices		Input Work Products	Output Work Products			ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11
OU.1 The organization has a complete understanding of the relationship with its customers and is in a position to address all negative feedback successfully.	BP.1 Establish Business Relationship Framework The organization identifies and documents its customers and other stakeholders, along with the processes, roles and responsibilities for managing the relationships.		[Identified Stakeholders]	Customer Relationship Management Plan			4.2 5.1.2 8.2.1	4.5.2h 7.1	7.4 8.3.2		4.2	
	BP.2 Establish Customer Focused Procedures Procedures for managing customer relationships are defined, including agreeing requirements, review, customer feedback, risks, complaints and escalations. The procedures are maintained under the management framework.		Customer Relationship Management Plan Management Framework	Customer Feedback Procedures			4.4.2 7.4 7.5	4.3.1 7.1	4.4		4.4	
	BP.3 Collect and Analyse Customer Feedback Agreed requirements are implemented and stakeholder feedback is collected and understood with the aim of driving improvements. Customer complaints are addressed within agreed timescales. Risks associated with customer feedback are understood and managed.		Customer Feedback Procedures	Customer Feedback Customer Relationship Report Risks			5.1.2 8.2.1c 8.5.5d 8.5.5e 10.2	4.5.4.3a 6.2f 7.1	7.4 8.3.2		9.1	
	BP.4 Review Relationship Regular communication takes place between the organization, customer and other stakeholders to review the extent to which the needs, objectives and expectations of the customer are met. Action is taken to address any identified issues or improvement opportunities.		Customer Relationship Management Plan	Corrective Action Request Improvement Request Review Records			4.4.1h 5.1.1i 5.1.2 7.4 9.3 10	7.1	7.4 8.3.2		9.3 10	

ORG.8 Risk Management

Process ID	ORG.8	Process Name	Risk Management	Category	Organizational Processes					Type	A
Process Purpose	To avoid or mitigate potential future events that could adversely affect reaching business objectives.									Version	v4r0
Process Outcome	Process Base Practices		Input Work Products	Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11	
<p>OU.1</p> <p>Risks are managed and business objectives are not adversely affected by unexpected conditions or events.</p>	<p>BP.1 Define Risk Management Procedures</p> <p>Procedures for managing risk are defined, including the development of plans, criteria for accepting risks, identification and analysis of risks, establishing mitigating actions, and tracking, reporting and escalation of risks.</p> <p>The procedures are maintained under the management framework.</p>		Management Framework	Risk Management Procedures	4.4.2 7.5	4.3.1 4.5.5.1 6.6.1c	4.4		4.4 6.1.2 6.1.3		
	<p>BP.2 Establish Risk Management Plan</p> <p>A risk management plan is defined for use by the organization. This risk management plan includes the approach to be taken, roles and responsibilities, timescales and thresholds for triggering action.</p>		Risk Management Procedures Stakeholder Requirements	Risk Management Plan	7.5 8.1	4.5.2j 6.6.1b	6.1.1		7.5 8.1		
	<p>BP.3 Identify and Analyse Risks</p> <p>Risks, both internal and external, are identified, analysed and documented to determine the priority for action when thresholds are met.</p> <p>Actions identify activities to reduce, avoid, transfer or communicate acceptance, responsibilities and timescales, including expected risk occurrence event.</p> <p>Risk assessments are reconsidered on a periodic and event driven basis.</p>		Business Needs Business Objectives Risk Management Plan	Risk Mitigation Actions Risks	4.4.1f 6.1.1	4.5.3d 4.5.4.3d 4.5.5.2a 5.2f 6.3.1 6.6.1d 6.6.3a	6.1.2 8.3.4.1 8.5.1.3 8.7.1 8.7.2 8.7.3.2 9.1	RI.01	6.1 8.2 8.3		
	<p>BP.4 Track Risks</p> <p>The status of each risk is monitored, and appropriate actions are taken to address risks, where planned triggers are activated or defined thresholds are exceeded. Actions are reviewed to ascertain their effectiveness and changes are made. The risk management documentation is updated with the status of current risks.</p> <p>All actions are tracked to closure, and records are maintained.</p>		Risk Management Plan Risks	Risk Records	4.4.1f 6.1.2	4.5.3d 4.5.4.3e 6.6.2	6.1.3 8.3.4.1 8.7.1 8.7.2 8.7.3.2 9.3	RI.01 RI.02	6.1.3 8.3		
	<p>BP.5 Report Status and Escalate</p> <p>The status of each risk, together with any actions, is reported to stakeholders. Where actions are not effectively addressing the risk, they are escalated.</p>		Risk Management Plan Risk Records	Risk Reports	4.4.1f 6.1.2 9.3.2e	4.5.4.3e 4.5.4.3h	9.3	RI.01 RI.02	9.3e		
	<p>BP.6 Analyse Risk Management Performance</p> <p>Data on the performance of risk management across the organization is collected, reviewed and analysed in order to indicate how well risk management is working and to identify improvements when needed.</p>		Risk Reports	Improvement Request	4.4.1g 5.1.1i 6.2.2e 9.1 9.3.2c 10.3	4.5.4.3b	9.1 9.3		9.1 10.2		

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<p>OU.2 Comprehensive and explicit understanding of risks to the delivery of trustworthy products and services exists, and there are no susceptibilities.</p>	<p>BP.7 Understand the Technical Factors Influencing Trust The organization maintains a full understanding of technical risks associated with the delivery of trustworthy products and services which include as a minimum the maturity of the technology used and associated vulnerabilities and exposures.</p>	<p>[Situational Awareness]</p>	<p>Risks</p>				<p>RI.02</p>		
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ORG.9 Programme Management

Process ID	ORG.9	Process Name	Programme Management				Category	Organizational Processes					Type		B/C	
Process Purpose	To ensure that related projects achieve their objectives.										Version	v4r0				
Process Outcome	Process Base Practices		Input Work Products	Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11						
OU.1 The organization achieves programme objectives in a coordinated manner and the delivery of related projects are on time, in budget and to quality.	BP.1 Identify and Plan the Programme Projects and other work that would benefit from coordination are identified and managed as a programme. The scope of each project is understood and a programme plan and schedule is produced that includes governance and objectives, project alignment and dependencies, stakeholder involvement, risks and issues and reporting. The programme plan is reviewed by stakeholders and approved by management. The programme is initiated following formal approval. The programme governance and objectives are communicated to the stakeholders and participants along with the programme plan and schedule.		[Projects]	Programme Plans Programme Schedules	6.2.1 7.1.1 7.4 8.1 8.2.1 8.2.2 8.2.3.1 8.3.2											
	BP.2 Monitor and Control the Programme Project and work reports are made available to enable the progress of the programme to be determined against its goals and objectives. Regular programme progress reviews take place with stakeholders, and records are maintained. Programme issues are documented, reviewed and resolved in a timely manner. Issues that cannot be addressed are escalated to higher levels of management. Programme risks and mitigating actions are reviewed on a periodic and event driven basis.		Issues Programme Plans Programme Schedules Risks	Issues Programme Reports Risks	6.1.1 6.1.2 8.1d 8.5.1 10.1b 10.2											
	BP.3 Manage Changes to the Programme Programme changes are documented, reviewed, approved and addressed. The impact of a programme change is determined and approved by appropriate stakeholders. Changes are documented, and records maintained.		Change Request Programme Plans Programme Schedules	Change Record Programme Plans Programme Schedules	6.3 8.2.4 8.3.6											

ORG.10 Lifecycle Model Management

Process ID	ORG.10	Process Name	Lifecycle Model Management	Category	Organizational Processes					Type	B/C
Process Purpose	To define, develop and assure the availability of lifecycle policies, processes, models, procedures and associated assets for use by the organization.								Version	v4r1	
Process Outcome	Process Base Practices	Input Work Products		Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11	
OU.1 The organization uses defined lifecycle models with no implementation tailoring.	BP.1 Establish Lifecycle Model Management Policy and Procedure A policy is established, approved and communicated to govern the management and development of lifecycle models within the business. The policy and procedure ensure that the needs of the customer and other stakeholders are accommodated through use on projects. A lifecycle model management procedure is defined to create, pilot, deploy and maintain lifecycle models, processes and associated assets. The policy and procedure are maintained under the management framework.	Business Plan Management Framework	Lifecycle Management Policy Lifecycle Management Procedure	4.4.1c 4.4.2 7.5.1							
	BP.2 Identify the Need for a Lifecycle Model The organization identifies the need for new or revised lifecycle models through feedback. Feedback comes from project tailoring and performance, customer needs and feedback, and industry developments and measures. The need, purpose and effort required to develop the new or revised lifecycle model is defined and agreed.	Customer Feedback Industry Developments Measurement and Analysis Report Project Performance Data Project Tailoring Stakeholder Requirements	Development Estimate and Approval New Lifecycle Scope Statement	4.1 4.2 4.3				TE.01		2-5.4.5.1	
	BP.3 Define the Lifecycle Model The organization reviews the available approaches and best practices within the organization and industry, and identifies or develops the most appropriate lifecycle model. The lifecycle model is documented. The criteria for when to use the lifecycle model is stated together with how it can be tailored in order to meet specific business needs.	New Lifecycle Scope Statement	Lifecycle Model Description and Assets	4.4.1 7.1.6 8.1				TE.01 TE.02 TE.03		2-5.4.5.1 6-5.4.4	
	BP.4 Pilot The lifecycle model is piloted within the organization to ensure that it achieves its purpose. Feedback from the pilot is assessed and used to improve the lifecycle model before deployment.	Lifecycle Model Description and Assets	Pilot Results	8.1b 8.5.1f							
	BP.5 Review the Lifecycle Model The lifecycle model is reviewed on a periodic or event driven basis to determine its effectiveness and efficiency in line with the business needs and objectives. Data and information from projects are used to identify opportunities to improve the lifecycle models, processes and associated assets.	Project Performance Data	Improvement Request	4.4.1g 4.4.1h 5.1.1i 6.2.2e 10.1a 10.1c 10.3				CM.02			

<p>OU.2 Software tools used in safety related lifecycle models are evaluated and their confidence level understood.</p>	<p>BP.6 Plan the Use of Software Tools Software tools that are used within a lifecycle model involving safety related developments are validated against established confidence levels. The use of software tools within the safety related lifecycle model are formally planned, which includes, identification of the software tool version, its configuration and use(s), the environment for use and the methods to qualify its operations. The approach to software tool evaluation includes qualification of the software tool, evaluation of the tool development process and or validation of the software tool. Records on the use of the software tool are established to support effective planning.</p>	<p>New Lifecycle Scope Statement</p>	<p>Evaluation report Software Tool Criteria</p>						<p>8-11.4.4</p>
	<p>BP.7 Evaluate Software Tools Evaluation of software tools is undertaken in accordance with the plan for using the software tool. The evaluation covers the intended purpose, the inputs and outputs, the environment, identified constraints, failure condition and the confidence in controls to prevent failure. Increased confidence in the software tool is gained through previous use given the specifications have not changed and under similar operating environments and functional constraints. Data on the previous use including malfunctions is collected and maintained. Records of the evaluation are maintained that demonstrate what, how, who and when the evaluation was conducted.</p>	<p>Evaluation report Software Tool Criteria</p>	<p>Software Tool Qualification</p>						<p>8.11.4</p>

ORG.11 Resource Management

Process ID	ORG.11	Process Name	Resource Management	Category	Organizational Processes					Type		B/C	
Process Purpose	To manage IT related resources throughout the organization.								Version	v4r0			
Process Outcome	Process Base Practices		Input Work Products	Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11			
OU.1 Resources are provided to meet the plans and no impact from lack of resources is evident.	BP.1 Establish Resource Management Procedures Resource management procedures are defined, approved and made available for use. The procedures cover the identification of resources and associated constraints, resource allocation, usage, maintenance, upgrade, storage and disposal. The procedures are maintained under the management framework.		Management Framework	Resource Management Procedures	4.4.2 7.5.1b	4.3.1	4.4						
	BP.2 Identify the Required Resources The organization identifies required resources based on business needs including infrastructure and work environment, corporate management and legal, and project management. Constraints that will affect the provision of resource needs are identified based on business limitations. Resource requirements and constraints are documented, reviewed, approved and communicated to stakeholders.		Business Needs	Human Resource Requirements Infrastructure Requirements Work Environment Requirements	4.4.1d 6.2.2b 7.1.1 7.1.2 7.1.3 7.1.4 8.3.2e	4.1.1e 4.4.1 4.5.1c 4.5.2g 4.5.2k 4.5.4.3c 5.2d 6.4 6.5	5.1g 7.1 8.4.1 8.4.2 8.5.2.1 8.5.2.2						
	BP.3 Provide Resources Plans are established, reviewed and approved for the provision of resources in accordance with procedures. Resources are made available to meet the requirements through acquisition, managed allocation of existing resources or development, in accordance with plans. Records of the provision of resources are maintained.		Human Resource Requirements Infrastructure Requirements Work Environment Requirements	Resource Plans Resource Provision Records	5.1.1e 7.1.2 7.1.3 7.1.4 8.3.2e	4.1.1e 4.4.1 4.5.3c 6.5	7.1 8.4.3 8.5.2.3						
	BP.4 Allocate Resources Resources are allocated to satisfy requirements in accordance with the resource plans. Where the identified need cannot be fully satisfied the resource shortfall or conflict is identified and managed.		Human Resource Requirements Infrastructure Requirements Resource Plans Work Environment Requirements	Asset Log Resource Provision Records	7.1.1 7.1.2 7.1.3 7.1.4 8.3.2e 8.5.1f	4.5.3 6.5	5.1c 5.3 7.1 8.4.3						
	BP.5 Manage Resource Usage Resource usage and allocation is monitored and managed. Adjustments are made to accommodate shortfalls or surpluses in resources. Resourcing issues are escalated to higher management when effective adjustments cannot be made.		Asset Log Issues Resource Plans	Asset Log Resource Plans Resource Provision Records	7.1.3 7.1.4	4.5.4.3 6.5	7.1 8.5.1.1						

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<p>BP.6 Maintain and Update Resources Resource incidents and problems are assessed and resolved. Routine maintenance of resources is carried out according to planned arrangements, and records are maintained. Resource updates and enhancements are applied under change management.</p>	<p>Asset Log</p>	<p>Incident Reports Maintenance Records Problem Reports</p>	<p>7.1.3 7.1.4</p>	<p>9.2</p>	<p>7.1 8.5.1.1</p>			
<p>BP.7 Reuse and Disposal of Resources Resources that are no longer allocated are made available for reuse. Resources that are no longer required by the business are considered for disposal in accordance with approved disposal arrangements.</p>	<p>Asset Log</p>	<p>Asset Log</p>	<p>8.7.1</p>		<p>8.5.1.1</p>			

ORG.12 Security Management

Process ID	ORG.12	Process Name	Security Management	Category	Organizational Processes					Type	B/C
Process Purpose	To ensure the protection and availability of information assets.								Version	v4r0	
Process Outcome	Process Base Practices		Input Work Products	Output Work Products		ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11
OU.1 There is no damage to the organization, stakeholders or customers arising through the mishandling or loss of information.	BP.1 Establish Security Management Policies and Procedures Policies for identifying and managing the security of business information assets are established, approved and communicated. Policies take into account any business and regulatory requirements for security management. The procedures are defined, approved and made available for use to implement the security management policies. Procedures comprise identifying the information assets which require security management and how appropriate records are maintained. The policies and procedures are maintained under the management framework.		Business Plan Management Framework	Security Policies Security Procedures	4.4.1c 4.4.2 7.5	6.6.1	4.4 8.7.3.1		5.2 7.5 A5.1		
	BP.2 Managing Information Security The organization assigns an individual to be responsible for information security. A team is selected to review and coordinate security activities on a regular basis. Ongoing consideration is given to ensure that emerging threats and vulnerabilities, both internally and externally, are understood and taken into account. Potential and actual security breaches are managed in accordance with Problem and Incident Management.		[Security Incidents] Security Policies Security Procedures	Incident Records Security Responsibilities	5.3 7.1.1 7.1.2	6.6.2	8.7.3		5.3 7.1 A6.1 A16.1		
	BP.3 Identify and Manage Risks The organization identifies and assesses risks to information assets, considering compromises of confidentiality, integrity and availability. The information security risk assessment covers all business, contractual and regulatory requirements. Control objectives are selected to reduce risk in line with management's risk appetite. Controls are selected to achieve control objectives.		Asset Log Risk Management Procedures Security Policies Security Procedures	Risk Records Risks Security Plan	6.1	6.6.2	6.1.2 8.7.3.2 8.7.3.2		6.1.1 6.1.2 8.2 8.3		
	BP.4 Implement and Manage Controls The controls are implemented, evaluated and managed in accordance with the management framework. Changes to the provision of services are raised through the formal change management process and are assessed for the impact on the security controls. Security incidents are recorded and analysed for corrective action and improvement opportunities.		Change Request Management Framework Security Plan	Change Record Corrective Action Request Improvement Request Security Controls	6.2 8.5.1 8.5.4 10	6.6.2 6.6.3	8.7.3.2 8.7.3.3		6.1.1 6.1.3 8.3 10		

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<p>OU.2</p> <p>The organization fully understands the coverage of security controls and does not experience damage from unexpected security incidents</p>	<p>BP.5 Security Coverage is Understood and Documented</p> <p>The organization fully understands and has documented the extent and coverage of the implemented security controls.</p> <p>The extent and coverage of the security controls is reviewed on a periodic and event driven basis.</p> <p>The documentation is maintained under change and configuration management.</p>	<p>Risk Records</p> <p>Security Controls</p>	<p>Risk Treatment Plan</p> <p>Statement of Applicability</p>					<p>6.1.3</p> <p>7.5</p> <p>8.3</p>	
	<p>BP.6 Proactively Monitor Effectiveness of Controls</p> <p>The organization implements proactive monitoring and review of operational security controls where incidents and events will cause security breaches.</p> <p>Corrective action is undertaken where the controls are considered inadequate and risk treatment plans are updated.</p>	<p>Incident Records</p> <p>Risk Treatment Plan</p> <p>Security Controls</p>	<p>Corrective Action Request</p> <p>Improvement Request</p> <p>Risk Mitigation Actions</p>					<p>9.1</p> <p>10</p> <p>A16.1</p>	

PRJ.1 Project Management

Process ID	PRJ.1	Process Name	Project Management	Category	Project Processes						Type	B/C
Process Purpose	To ensure that the projects meet their objectives.									Version	v4r1	
Process Outcome	Process Base Practices		Input Work Products	Output Work Products		ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11	
OU.1 The organization achieves project objectives in a controlled manner, and delivery is on time, in budget and to quality.	BP.1 Establish Project Management Policies and Procedures Policies are established, approved and communicated that govern the project management methodology and the delivery of projects. Procedures are defined, approved and made available for use to implement the project management policies. The procedures cover project planning, tailoring, estimating, monitoring and control, resourcing, reporting and escalation, together with supplier, stakeholder, risk and issue management. The policies and procedures are maintained under the management framework.		Business Plan Management Framework	Project Management Policies Project Management Procedures		4.4.1c 4.4.2 7.5						
	BP.2 Scope the Project A scope statement is defined for the project with deliverables agreed by stakeholders. The quality objectives and the requirements for the project are established and documented. Objectives, constraints and assumptions are recorded and agreed before project initiation. Projects select and tailor the appropriate lifecycle model, and the rationale is documented. Estimates are produced against the agreed scope, including any necessary contingency. A budget for the work to be undertaken is prepared. The scope, objectives, constraints, selected approach, estimates and budget are reviewed by stakeholders and approved by management.		Stakeholder Requirements	Scope Statement		8.1a 8.1b 8.2.1 8.2.2 8.2.3 8.3.1 8.3.2			PR.01		2-6.4.5 4-5.4.4 6-5.4.2	
	BP.3 Plan the Project Management plans and schedules are produced based on the scope. The management plans and schedule contains dependencies both internal and external to the project. Human resources, equipment and facilities are allocated to the project. Team member responsibilities and level of authority are assigned and documented in the management plans. The management plans and schedule are reviewed and approved for use.		Scope Statement	Human Resource Requirements Infrastructure Requirements Management Plan Project Schedule Work Environment Requirements		8.1c 8.3.2 8.4.1			PR.01		2-6.4.2.1 2-6.4.2.3 4-5.3.1 6-5.3.1 6-5.4.1	
	BP.4 Initiate the Project The project is initiated following formal approval. The project aims and objectives are communicated and agreed with the stakeholders and participants, along with the management plans and schedules.		Management Plan Project Schedule	Project Approval Record		7.4 8.1 8.2 8.2.3.1 8.4.1 8.4.3			PR.01			

	<p>BP.5 Monitor and Control the Project</p> <p>The project is monitored periodically against the project management plan and schedule to ensure that the project progresses as planned. Quality is monitored, and performance is documented.</p> <p>Regular reviews take place, and the team is made aware of project status and progress. Progress of the project is reported to stakeholders periodically and on an event driven basis.</p> <p>Where external providers are utilised on the project, the project monitors and controls extends to include these providers.</p> <p>Deviations from the plan are reported to stakeholders, and actions to be taken are agreed.</p>	<p>Management Plan</p> <p>Project Schedule</p>	<p>Project Reports</p>	<p>8.1</p> <p>8.1d</p> <p>8.4.2</p> <p>8.4.3</p> <p>8.5.1</p>			PR.01		
	<p>BP.6 Manage Risks and Issues</p> <p>Risks are identified and evaluated. Mitigation plans are established. Risks are reviewed periodically and on an event driven basis.</p> <p>Issues are documented, reviewed and resolved in a timely manner. Issues that cannot be addressed are escalated to higher levels of management.</p>	<p>Issues</p> <p>Risks</p>	<p>Issues</p> <p>Risks</p>	<p>6.1.1</p> <p>6.1.2</p>			PR.01		
	<p>BP.7 Manage Changes to the Project</p> <p>Changes are documented, reviewed, approved and addressed.</p> <p>The impact of a change is determined. Project stakeholders are engaged in deciding whether to proceed with the change. Approval to implement the change is provided.</p>	<p>Change Request</p> <p>Management Plan</p> <p>Project Schedule</p>	<p>Change Record</p> <p>Management Plan</p> <p>Project Schedule</p>	<p>8.1</p> <p>8.2.4</p> <p>8.5.6</p>			PR.01		
	<p>BP.8 Close the Project</p> <p>Project resources and facilities are released, and the project is formally closed.</p> <p>The overall performance of the project is reviewed against the scope, objectives, timescales and budget. Lessons learnt reviews are undertaken involving all stakeholders.</p> <p>Knowledge transfer and improvement opportunities are identified for use by the organization.</p>	<p>Management Plan</p> <p>Project Schedule</p>	<p>Closure Report</p> <p>Human Resource Requirements</p> <p>Improvement Request</p> <p>Infrastructure Requirements</p> <p>Lessons Learnt Report</p>	<p>4.4.1g</p> <p>5.1.1i</p> <p>7.1.1</p> <p>7.1.2</p> <p>7.1.3</p> <p>10</p>			PR.01		
<p>OU.2</p> <p>Safety objectives and cases are established and controlled, and all safety goals are achieved.</p>	<p>BP.9 Safety is Planned, Communicated and Monitored</p> <p>A safety manager is appointed and safety activities are planned, progress monitored and the status reported to stakeholders throughout development.</p> <p>Safety plans are produced, approved and maintained. Plans are effectively communicated and safety activities are undertaken by suitably qualified resource when sufficient information is available.</p> <p>Deviations from the plan are identified promptly and appropriate action is taken and recorded.</p>	<p>Human Resource Requirements</p>	<p>Safety Plan</p>						<p>2-6.4.3</p> <p>2-</p> <p>6.4.4.1</p> <p>4-5.3.1</p> <p>4-5.4.1</p> <p>4-</p> <p>10.3.1</p> <p>6-5.3.1</p> <p>6-6.3.1</p> <p>6-7.3.1</p> <p>8-7.3.1</p> <p>8-8.3.1</p> <p>8-</p> <p>10.3.1</p>

	<p>BP.10 Safety Cases are Prepared The safety plan identifies safety goals and, where applicable, the need for safety cases to be developed. Safety cases continue to be generated as part of the safety lifecycle.</p>	Safety Plan	Safety cases						2-6.4.6 4-10.3.1 4-11.3.1
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PRJ.2 Decision Management

Process ID	PRJ.2	Process Name	Decision Management	Category	Project Processes					Type		B/C	
Process Purpose	To ensure that key business decisions are managed.									Version	v4r0		
Process Outcome	Process Base Practices		Input Work Products	Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11			
OU.1 Key business decisions are managed effectively and subsequent issues do not arise.	BP.1 Establish Decision Management Policy A policy for making, managing and recording key business decisions is established, approved and communicated. The policy takes into account the nature of work undertaken by the organization, provides the definition of a key business decision and defines the records to be maintained. The policy is maintained under the management framework.		Business Plan Management Framework	Decision Management Policy	4.4.1c 7.5								
	BP.2 Manage Key Business Decisions Planning for making decisions includes recording the need for a decision, criteria for identifying the required outcome, the activities to be undertaken, involving stakeholders and maintaining records.		Decision Management Policy	Decision Plan	4.4.1 6.1.1 7.1.1 7.1.6 8.7.1 10.1 10.2.1b								
	BP.3 Consider Alternative Options Alternative options are identified, recorded and evaluated. The alternative options provide positive and negative impacts on the required outcome and include a mechanism for allowing the options to be compared.		Decision Plan	Alternative Options	4.4.1 6.1.1 6.1.2 7.1.1 7.1.6 8.7.1 10.1 10.2.1b								
	BP.4 Make Decision The alternative options are assessed by the stakeholders and the preferred option is selected in accordance with the decision plan. The selected option is recorded, along with the rationale for the selection. The decision is communicated to stakeholders.		Alternative Options Decision Plan	Decision	4.4.1 6.1.1 6.1.2 7.1.1 7.1.6 8.7.1 10.1 10.2.1b								

<p>BP.5 Monitor Outcome of Decision The impact of the decision is monitored against achievement of the desired outcome. Further decision cycles are applied if the desired outcome cannot be achieved from the original decision. The effectiveness of the decision-making process is periodically reviewed and improvements identified.</p>	<p>Decision</p>	<p>Improvement Request</p>	<p>4.4.1g 5.1.1i 10</p>					
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PRJ.3 Configuration and Change Management

Process ID	PRJ.3	Process Name	Configuration and Change Management				Category	Project Processes				Type	B/C
Process Purpose	To manage and control the work products required to maintain the integrity of the product.										Version	v4r1	
Process Outcome	Process Base Practices		Input Work Products	Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11			
OU.1 The version and relationship of all work products are known at all times.	BP.1 Establish a Configuration and Change Management Policy and Procedures A policy for configuration and change management is established, approved and communicated. Procedures are defined, approved and made available for use to implement the configuration and change policy. Procedures cover configuration identification, planning, baseline management, change control, audits and release. The policy and procedures are maintained under the management framework.		Business Plan Management Framework	Configuration and Change Management Policy Configuration and Change Management Procedures	4.4.1c 4.4.2 7.5	4.3.1 9.1 9.2	4.4 8.5.1.1		4.4 7.5 A12.1	8-7.4.2			
	BP.2 Plan Configuration and Change Activities Plans are produced to define the activities, schedule, resources, tools, roles and responsibilities for configuration and change management. The plans are integrated with associated management plans and schedules.		Configuration and Change Management Policy Configuration and Change Management Procedures	Configuration Management Plan	8.1	9.1	8.2.6	PR.04	8.1 A12.1	8-7.4.1 8-8.3.1 8-8.4.1.1 8-8.4.1.3			
	BP.3 Establish Configuration and Change Management System A system is established in line with the configuration and change management plan. The system covers tools, procedures and work instructions necessary to ensure work products are maintained at all times.		Configuration and Change Management Policy Configuration and Change Management Procedures	Configuration and Change Management System	4.4 7.1.3 8.1 8.5.2	9.1	8.2.6	PR.04	4.4 8.1 A12.1	8-7.4.3 8-7.4.5			
	BP.4 Manage Configuration Items Configuration items are uniquely identified, managed and tracked to ensure that the latest status information is recorded and the item is available.		Configuration Items	Configuration Items	7.5.3 8.5.2 8.5.4 8.7.1	9.1	8.2.6 8.5.1.3	PR.04	7.5.3 A12.1	2-6.4.4.2 8-7.4.4 8-8.4.1.2 8-8.4.1.4 8-10.4.6 8-14.4.5.1			
	BP.5 Manage Baselines Baselines are established to show the relationship between individual configuration items at a particular point in time. Audits are conducted to ensure the physical and functional integrity of baselines, and records maintained. Status reports are provided to stakeholders and retained.		Configuration Items	Baselines Status Reports	7.5.3 8.5.2 8.5.4	9.1	8.2.6	PR.04	7.5.3	4-11.4.2.2 8-10.4.6			

<p>BP.6 Manage Changes Stakeholder changes are logged and analysed to determine the necessary action to be taken and the impact on configurable items. The results of the analysis are communicated to stakeholders. Changes to configurable items are identified, reviewed and approved. Approved changes are undertaken, verified and released. Records of the change are maintained.</p>	<p>Change Request Configuration Items</p>	<p>Change Record Configuration Items</p>	<p>7.5.2 7.5.3.2c 8.1 8.5.2 8.5.6</p>	<p>4.3.3 6.1 9.2</p>	<p>8.2.6 8.5.1.2 8.5.1.3</p>	<p>PR.04</p>	<p>7.5.2 7.5.3e 8.1 A12.1</p>	<p>2- 6.4.4.2 8-8.4.2 8-8.4.3 8-8.4.4 8-8.4.5</p>
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PRJ.4 Information Management

Process ID	PRJ.4	Process Name	Information Management	Category	Project Processes					Type	B/C	
Process Purpose	To ensure that information used by the business is secure and retrievable.									Version	v4r0	
Process Outcome	Process Base Practices		Input Work Products	Output Work Products			ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11
OU.1 Information used by the business can be retrieved and unauthorized access is prevented.	BP.1 Determine Controls for Information Management The organization's information security risk assessment identifies suitable information policies, procedures and other controls to address vulnerabilities and minimize the risks to the confidentiality, integrity and availability of information. The policies, procedures and other controls are maintained under the management framework.		Business Plan Management Framework Risks	Information Controls Information Policies Information Procedures	4.4.1c 4.4.2 7.5	4.3.1 4.3.2 4.3.3 6.6.1 6.6.2	7.5 8.7.3.2	PH.02	4.4 7.5.1 A8.2 A8.3 A12.4 A12.5 A13.2 A14.1 A14.3			
	BP.2 Identify and Manage Information Assets The organization identifies all information and assigns owners. Information is classified in accordance with documented rules, and managed to prevent unintended use.		[Information] Information Controls	Information Classification Rules	7.5.1	6.6.2	7.5.1		7.5.1 A8.1 A9.1 A9.2 A9.3			
	BP.3 Handling of Information Information on portable media is stored and transported securely according to information procedures. Information is protected against malicious damage and loss. Information communicated via electronic messaging is protected from unauthorized disclosure or modification, according to its classification. Information that is no longer required is disposed of to prevent recovery and misuse. Records of disposal are maintained.		Information Classification Rules Information Controls Information Procedures	Disposal Records	7.5.3.1 7.5.3.2	6.6.2 6.6.3	7.5.2 7.5.3 7.5.4		7.5.3 A6.2 A8.1 A8.2 A8.3 A9.1 A9.2 A9.4 A11.2 A12.1 A12.4 A14.1			
	BP.4 Access to Information Access to information is controlled by its owner. Access is reviewed periodically to ensure it remains valid.		Access Requests Information Controls Information Procedures	Access Records Review Records	7.5.3.1 7.5.3.2	6.6.2	7.5.2		7.5.3 A6.2 A8.1 A8.2 A9.1 A9.2 A9.4 A11.2			

PRJ.5 Problem and Incident Management

Process ID	PRJ.5	Process Name	Problem and Incident Management				Category	Project Processes				Type	B/C
Process Purpose	To manage incidents and to identify their root causes in order to prevent recurrence.										Version	v4r1	
Process Outcome	Process Base Practices		Input Work Products		Output Work Products			ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11
OU.1 Incidents and problems are addressed, and problems do not reoccur.	BP.1 Define Problem, Incident and service request Management Policies and Procedures Problem, Incident and service request Management policies to support the needs of the business are established, approved and communicated. Policies are communicated to ensure that all staff understand how their roles and responsibilities contribute to the successful management of service requests incidents and problems. Procedures are defined, approved and made available for use to implement the problem, incident and service management policies. Procedures comprise recording, monitoring, reporting, escalation and resolution of incidents and problems. The policies and procedures are maintained under the management framework.		Business Plan Management Framework		Service Requests, Problem and Incident Policies Service requests, Problem and Incident Procedures			4.4.1c 4.4.2 7.5	4.3.1 8.1 8.2	4.4 8.6.3		4.4 7.5 A5.1 A16.1	2-5.4.2.4 2-7.4.2.3 2-7.4.2.4
	BP.2 Record and Manage Incidents and Service Requests Incidents and service requests are recorded, prioritized and managed to resolution. Stakeholders are informed of the status of the incident and service requests. Records of the incident and service requests, and the action taken are maintained.		Incident Reports Service Request reports		Incident Records Service Request records Stakeholder Notifications			8.5.5 8.7 10.1b 10.2	4.3.3 6.2 8.1	8.6.1 8.6.2 8.7.3.3	PR.07	10.1 A16.1	2-5.4.2.3 2-5.4.2.4 2-7.4.2.3 2-7.4.2.4 4-11.4.2.3
	BP.3 Avoid and Resolve Problems Improvement actions are produced from trends and performance monitoring, to avoid potential incidents and problems. Repeating incidents, anomalies and stakeholder feedback are considered for underlying problems. Problems are identified, recorded, analysed and managed to prevent reoccurrence. Stakeholders are informed of the status of the problem. Records of the problems and the action taken are maintained.		Anomalies Incident Reports Measurement and Analysis Data Stakeholder Feedback		Problem Reports			10	4.3.3 6.2 7.1 8.2	8.6.3	PR.07	10 A16.1	2-5.4.2.4 2-7.4.2.4
	BP.4 Escalate Service Requests, Incidents and Problems Service requests, Incidents and problems not resolved are escalated to aid the resolution of the incident or problem, and records are maintained.		Incident Records Problem Reports Service Request records		Incident Records Problem Reports Service Request records			5.1.1a 5.1.1g 5.1.1h 9.3.2c	4.3.3 7.1 8.2		PR.07	5.1e 9.3c 10.1 A16.1	2-5.4.2.4 2-6.4.3.8

PRJ.6 IT Finance Management

Process ID	PRJ.6	Process Name	IT Finance Management			Category	Project Processes					Type		B/C	
Process Purpose	To ensure that financial arrangements are established and controlled for the services.										Version	v4r0			
Process Outcome	Process Base Practices		Input Work Products		Output Work Products			ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11		
OU.1 Services are delivered according to contract requirements within the agreed budget.	BP.1 Establish IT Finance Policies and Procedures IT finance policies are established, approved and communicated to ensure that IT related finances are managed, reviewed, and reported against prepared budgets and forecasts. IT finance procedures are defined, approved and made available to implement the IT finance policies. Policies and procedures take into account legal and regulatory requirements. Procedures include budgeting and accounting for services, apportioning costs and financial controls. Interfaces to other financial management processes are defined. The interface between the budgeting and accounting for services process and other financial management processes is defined. The policies and procedures are maintained under the management framework.		Business Plan Management Framework		Finance Policies Finance Procedures			4.4.1c 4.4.2 7.5	6.4	8.4.1					
	BP.2 Prepare Budgets Budgets and forecasts are prepared, reviewed and agreed by stakeholders to enable effective IT financial control.		Business Plan Capacity Plan Stakeholder Requirements		Finance Budget Finance Forecast			4.4.1d 5.1.1e 7.1.1 8.1c	4.4.1 5.3d 6.4	8.4.1					
	BP.3 Report and Review Costs At regular and planned intervals actual costs are reported and reviewed against the budget and forecast. Variations are identified and action taken to avoid disruption to services. Changes to the budgets are approved by stakeholders.		Finance Budget		Finance Budget Finance Forecast Finance Reports				6.4	8.4.1					

PRJ.7 Management Reporting

Process ID	PRJ.7	Process Name	Management Reporting	Category	Project Processes					Type		B/C	
Process Purpose	To provide information to management on the status of work operations.									Version	v4r0		
Process Outcome	Process Base Practices	Input Work Products	Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11				
OU.1 Management are informed about work operations and can make informed and effective decisions.	BP.1 Identify and Plan Management Reporting Management define their reporting requirements from work operations. These requirements are reviewed and agreed with internal stakeholders. The reporting requirements include the content and frequency of management reports taking into consideration the goals and objectives of the work operations and the time required to produce the reports. The generation of the required management reports is included in work plans.	Business Plan	Management Plan	4.4.2 6.2.2e 7.1.5.1 7.1.6 7.4 7.5 8.1e 9.1.1	4.3.1 4.5.2l 6.1	7.6 9.4							
	BP.2 Produce Management Reports Data from ongoing work is collected, validated, analysed and reported in accordance with planned arrangements.	Management Plan	Management Reports	4.4.2b 7.1.5.2 7.5.2 7.5.3 8.5.1c 9.1.3	4.5.3 6.1 6.2 6.4 7.2	7.6 9.4							
	BP.3 Review Report The reports are reviewed by management and feedback is provided to the report providers. Management decisions are based on the information provided in the reports.	Management Reports	Management Feedback	7.1.6 9.1.3 9.3.1 9.3.2 9.3.3	4.5.4.3 6.1 6.2 6.4 7.2	7.6 9.4							

TEC.1 Data Management

Process ID	TEC.1	Process Name	Data Management	Category	Technical Processes					Type	A
Process Purpose	To ensure that data and records required by the organization are available to satisfy business needs.								Version	v4r1	
Process Outcome	Process Base Practices	Input Work Products	Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11		
OU.1 Up-to-date and accurate data necessary for the effective delivery, management and confirmation of the organization's business plan is available.	BP.1 Establish Data Policy and Procedures A policy is established, approved and communicated to ensure that data are managed according to business needs. Procedures are defined, approved and made available for use to manage data maintained under the management framework. Data should be accurate, succinct, structured, searchable and understandable. The policy and procedures are maintained under the management framework.	Business Plan Management Framework	Data Management Policy Data Management Procedures	4.4.1c 4.4.2 7.5	4.3.2	4.4		4.4 7.5	8-10.4.		

<p>BP.2 Identify Data The organization identifies all data that needs to be reviewed, approved or controlled. Data is appropriately identified and described, including the format and media used.</p>	<p>[Data]</p>	<p>Master Data List</p>	<p>7.5.1 7.5.2a 7.5.2b 7.5.3.2 8.1e</p>	<p>4.3.1g 4.3.1h 4.3.2a 4.3.2f 4.3.2g</p>	<p>4.3 5.2.1 6.2.1 7.2d 7.5 8.1 8.1c 8.5.2.1 8.7.3.2 9.1 9.1 9.2 9.3 10.1.2</p>	<p>PH.02 PR.06</p>	<p>7.5</p>	<p>2- 5.4.2.5 2-5.5 2-6.5 2-7.3.1 2-7.5 3-5.5 3-6.5 3-7.5 3-8.5 4-5.5 4-6.5 4-7.5 4-8.5 4-9.5 4-10.5 4-11.5 6-5.5 6-6.5 6-7.5 6-8.5 6-9.5 6-10.5 6-11.5 8-7.5 8-8.5 8-9.5 8- 10.4.2 8-10.5 8-11.5 8-12.5 8-14.5 9.5.5 9.6.5 9.7.5 9.8.5</p>
<p>BP.3 Review Data Reviews are undertaken, and action is taken by the owner to address identified issues. The stakeholders involved in the review formally decide the need for a subsequent full review, partial review or update completion check.</p>	<p>Master Data List</p>	<p>Data Review Records</p>	<p>7.5.2c</p>	<p>4.3.2b 4.3.2c 4.3.3</p>	<p>7.5.2 9.1 9.3</p>	<p>PR.06</p>	<p>7.5</p>	<p>2- 5.4.2.5</p>

<p>BP.4 Approve, Manage and Store Data Data is approved by defined authorities, managed in accordance with the data management procedures and stored within a defined system.</p>	Master Data List	Approval Records	7.5.2c 8.2.3.2 8.3.4f 8.3.5 8.5.6	4.3.2a 4.3.2e 4.3.3	7.5.2 7.5.3	PH.02 PR.06	7.5	2- 5.4.2.5
<p>BP.5 Manage Data Changes When changes are allowed, data is stored within a defined system that tracks changes, and identifies and provides access and retention controls. All versions of data are uniquely identified. Data is changed through a formal process that involves communication to stakeholders.</p>	Change Request Master Data List	Change Record Master Data List	7.5.3.1 7.5.3.2a 7.5.3.2b 7.5.3.2c	4.3.2b 4.3.2d 4.3.2f 5.3k	7.5.3.2c 8.5.1	PH.02 PR.06	7.5	2- 5.4.2.5
<p>BP.6 Archive and Dispose of Data Data is archived to provide long-term secure storage. Data is disposed of securely to prevent unauthorized access or use after specified retention periods. Data disposal records are maintained.</p>	Data Management Procedures Master Data List	Disposal Records Master Data List	7.5.3.2d	4.3.2h 4.3.3	7.5.3.2d	PH.02 PR.06	7.5	

TEC.2 Capacity Management

Process ID	TEC.2	Process Name	Capacity Management	Category	Technical Processes						Type	B/C
Process Purpose	To ensure that IT infrastructure and facilities are capable of meeting current and future business needs.									Version	v4r0	
Process Outcome	Process Base Practices		Input Work Products	Output Work Products			ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11
OU.1 Infrastructure and facilities are provided and managed to meet needs, and the service levels are not impacted by lack of capacity.	BP.1 Identify Capacity Requirements Current demand is understood and demand forecasts are collected and analysed to determine their likely impact on existing capacity. Capacity requirements are documented and agreed by stakeholders.		Business Plan Capacity Measures Improvement Request Service Level Agreements	Capacity Requirements			4.4.1d 5.1.1e 7.1.1 7.1.2 7.1.3 8.1c	4.3.1 4.5.2 6.5	8.4.2		5.1c 7.1 8.1 A12.1	
	BP.2 Establish Capacity Plans The required capacity is planned, taking into account the requirements for availability, continuity, service levels and proposed improvements. The capacity plan is agreed and approved by management. Changes to the capacity plan are managed under the change control process.		Capacity Requirements	Capacity Plan			7.5	4.3.1 6.5	8.4.3		7.5	
	BP.3 Implement Capacity Plans The capacity plan is communicated to stakeholders prior to implementation to ensure that operational plans remain aligned. The capacity plan is implemented and changes to the infrastructure and facilities are managed.		Capacity Plan	Capacity Measures Infrastructure Requirements Resource Needs			7.1.2 7.1.3 8.1 8.5.1d	6.5	8.4.3		7.1 8.1 A12.1	
	BP.4 Monitor Capacity The organization periodically measures, reviews and reports operational demand and identifies potential capacity issues. Recommendations for improvement are identified and, when approved, incorporated into the capacity plan.		Capacity Measures Capacity Plan	Capacity Plan Corrective Action Request Improvement Request			4.4.1h 5.1.1i 9.1.1 9.1.3 10	6.5	8.4.3		10 A12.1	

TEC.3 Integration Management

Process ID	TEC.3	Process Name	Integration Management	Category	Technical Processes					Type	B/C
Process Purpose	To assemble and verify the product.									Version	v4r1
Process Outcome	Process Base Practices		Input Work Products	Output Work Products		ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11
OU.1 The product is integrated, with no defects found in release and operation related to integration.	BP.1 Define Integration Plan An integration plan is established to cover the integration strategy including details of the integration sequence, stakeholder involvement and verification criteria for the product. The integration plan is reviewed, approved, communicated and maintained under configuration management.		Architectural Design System Requirements	Integration Plan		8.1 8.3.2					4- 8.4.1.2 4- 8.4.1.2 4- 8.4.1.7 4- 8.4.2.2.1 6-5.3.1 6-7.3.1 6-10.4.
	BP.2 Establish Integration Environment The integration environment is defined, established and verified prior to its use, and is maintained under configuration management. Integration environment interfaces are identified, documented and maintained under configuration management.		Integration Plan	[Integration Environment]		7.1.3 7.1.4			TE.08		6- 10.4.8
	BP.3 Assemble Product The product is assembled in accordance with the integration plan, and is maintained under configuration management. Traceability is established between the system design and the integrated components.		Integration Plan System Components	Product Traceability Report		8.3.4 8.3.5			TE.08		4- 8.4.2.1.1 4- 8.4.3.1.1 6- 10.4.2

<p>BP.4 Verify the Product The assembled product is verified in accordance with the integration plan, and results are recorded. Equipment and data used to conduct verification activities controlled under configuration management. Defects identified during integration are logged and managed to resolution.</p>	<p>Integration Plan Product</p>	<p>Defect Product</p>	<p>7.5 8.3.4c 8.3.5 8.6</p>			<p>TE.09 TE.10</p>	<p>4-8.4.1 4-8.4.2 4- 8.4.3.1. 1 4- 8.4.3.2 6-7.4.8 6- 10.4.2 6- 11.3.1 6-11.4 8- 9.4.3.1 9- 5.4.14</p>
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TEC.4 Verification

Process ID	TEC.4	Process Name	Verification	Category	Technical Processes					Type	B/C
Process Purpose	To ensure work products are objectively evaluated and reworked to meet their agreed specifications.									Version	v4r1
Process Outcome	Process Base Practices		Input Work Products	Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11	
OU.1 Work products are shown to meet their specifications following verification without rework.	BP.1 Establish Verification Procedures Verification procedures are defined, approved and made available for use to ensure work products undergo at least one form of verification prior to being formally approved and used. The verification approach supports the defined organizational lifecycles. The procedures are maintained under the management framework.		Lifecycle Model Description and Assets Management Framework	Verification Procedures	4.4.2 7.1.5.1 7.5 8.3.1 8.5.1						
	BP.2 Plan Verification Activities The organization develops a verification plan that includes the identification of what is to be verified, when it will be verified, which stakeholders are involved and methods used. Verification planning includes the possible need for rework. The results of previous verification activities are taken into account. The verification plan is reviewed and approved prior to verification being conducted.		Verification Procedures	Verification Plan Verification Schedule	7.5 8.1 8.3.2					2-6.4.7 4- 8.4.1.2 4- 8.4.1.7 4- 8.4.2.1 6-6.3.1 6-6.4.6 6-7.3.1 6-9.4 6- 10.3.1 6-10.4. 6- 11.3.1 6- 11.4.1 8-9.4.1 8-9.4.2	

<p>BP.3 Conduct Verification Activities</p> <p>Verification activities are conducted in accordance with the verification plan, and records are kept. Records detail what is verified and the results of the verification activities.</p> <p>It is formally decided if subsequent verification activity is necessary, and the verification plan is updated.</p> <p>Rework or corrective action is performed on all agreed failures identified during verification.</p> <p>Records are updated to show that the rework or corrective action has been completed.</p>	<p>Verification Plan</p> <p>Verification Schedule</p> <p>Work Products</p>	<p>Verification Records</p>	<p>8.3.4b</p> <p>8.3.4c</p> <p>8.6</p>			<p>TE.09</p> <p>TE.10</p>	<p>2-</p> <p>6.4.7.1</p> <p>4-7.4.3</p> <p>4-7.4.8</p> <p>4-8.4.1</p> <p>4-</p> <p>8.4.2.1.</p> <p>2</p> <p>4-</p> <p>8.4.2.2.</p> <p>2</p> <p>4-</p> <p>8.4.3.1.</p> <p>1</p> <p>4-</p> <p>8.4.3.2</p> <p>4-</p> <p>10.3.1</p> <p>6-6.4.7</p> <p>6-6.4.8</p> <p>6-7.3.1</p> <p>6-7.4.8</p> <p>6-</p> <p>7.4.18</p> <p>6-8.3.1</p> <p>6-8.4.5</p> <p>6-9.3.1</p> <p>6-9.4.2</p> <p>6-</p> <p>10.3.1</p> <p>6-</p> <p>10.4.2</p> <p>6-</p> <p>10.4.7</p> <p>6-</p> <p>11.3.1</p> <p>6-11.4</p> <p>8-</p> <p>9.4.3.1</p> <p>8-</p> <p>11.4.2.</p> <p>1</p> <p>8-</p> <p>12.4.3.</p> <p>2</p> <p>8-</p> <p>12.4.3.</p> <p>3</p>
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<p>BP.4 Review the Effectiveness of the Verification The effectiveness of the verification activity is reviewed, and improvement actions taken.</p>	<p>Verification Plan Verification Records</p>	<p>Improvement Request</p>	<p>4.4.1h 5.1.1i 10</p>			<p>CM.02</p>		<p>6- 11.4.4 8- 8.4.5.2 8- 9.4.3.2</p>
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TEC.5 Validation

Process ID	TEC.5	Process Name	Validation	Category	Technical Processes					Type	B/C
Process Purpose	To ensure products are objectively evaluated to meet their intended purpose.								Version	v4r1	
Process Outcome	Process Base Practices		Input Work Products	Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11	
OU.1 Products are shown to meet their intended purpose following validation without rework.	BP.1 Establish Validation Procedures Validation procedures are defined, approved and made available for use to ensure that products undergo at least one form of validation prior to being formally approved and used. The validation approach supports the defined organizational lifecycles. The procedures are maintained under the management framework.		Lifecycle Model Description and Assets Management Framework	Validation Procedures	4.4.2 7.5 8.3.1 8.5.1						
	BP.2 Plan Validation Activities The organization develops a validation plan that includes the identification of what is to be validated, when it will be validated, which stakeholders are involved and methods used. Validation planning includes the possible need for rework. The results of previous validation activities are taken into account. The validation plan is reviewed and approved prior to validation being conducted.		Validation Procedures	Validation Plan Validation Schedule	7.5 8.1 8.3.2					2-6.4.9.2 2-6.4.9.3 2-6.4.9.4 2-6.4.9.5 4-5.3.1 4-5.4.3 4-6.3.1 4-6.4.6.2 4-9.4.2 4-10.3.1 4-10.4.1 8-8.4.5.2 8-12.4.2	

<p>BP.3 Conduct Validation Activities</p> <p>Validation activities are conducted in accordance with the validation plan, and records are kept. Records detail what is validated and the results of the validation activities.</p> <p>It is formally decided if a subsequent validation activity is necessary, and the validation plan is updated.</p> <p>Rework or corrective action is performed on all agreed failures detected during validation.</p> <p>Records are updated to show that the rework or corrective action has been completed.</p>	<p>Product</p> <p>Validation Plan</p> <p>Validation Schedule</p>	<p>Validation Records</p>	<p>7.5.3.2c</p> <p>8.3.4d</p> <p>8.6</p>		<p>TE.09</p> <p>TE.10</p>		<p>2-6.4.9</p> <p>4-8.4.4</p> <p>4-9.4.1</p> <p>4-9.4.3</p> <p>4-</p> <p>10.4.2</p> <p>4-</p> <p>11.3.1</p> <p>6-</p> <p>11.4.3</p> <p>8-</p> <p>12.4.3.</p> <p>5</p>
<p>BP.4 Review Validation Effectiveness</p> <p>The effectiveness of the validation activity is reviewed, and improvement action taken.</p>	<p>Validation Plan</p> <p>Validation Records</p>	<p>Improvement Request</p>	<p>4.4.1h</p> <p>5.1.1i</p>		<p>CM.02</p>		<p>4-9.4.4</p> <p>6-</p> <p>11.4.4</p> <p>8-</p> <p>8.4.5.2</p> <p>8-</p> <p>8.4.5.2</p> <p>8-</p> <p>12.4.4</p>

TEC.6 Transition and Release Management

Process ID	TEC.6	Process Name	Transition and Release Management	Category	Technical Processes						Type	B/C
Process Purpose	To move the product into the operational environment and make it available to customers.										Version	v4r1
Process Outcome	Process Base Practices		Input Work Products	Output Work Products			ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11
OU.1 A product is released into the operational environment to the satisfaction of the customer.	BP.1 Establish the Transition and Release Policy and Procedures A policy is established, approved and communicated to ensure that the transition and release of the product meet business needs. Procedures are defined, approved and made available for use to implement the transition and release policy. The policy and procedures are maintained under the management framework.		Business Plan Management Framework	Transition and Release Policy Transition and Release Procedures			4.4.1c 4.4.2 7.5 8.2.3.1 8.3.1 8.3.2h 8.5.1 8.6	4.3.1 4.3.2 9.3	4.4			
	BP.2 Plan for Release The release is planned and scheduled to ensure that incidents and problems can be managed. The transition and release plan and schedule are reviewed and approved by stakeholders.		Product Stakeholder Requirements	Release Plan			8.3.2 8.6	5.4 9.2 9.3	8.5.3	TE.11		4-9.4.2 4-10.4.1
	BP.3 Verify Operational Environment The operational environment is confirmed, and any additional needs required to transition, release and use the product are identified.		Release Plan Stakeholder Requirements	Operational Environment Verification			8.6	5.4	8.5.3	TE.10 TE.11		4-9.4.2
	BP.4 Validate the Product The product is validated in a representative operational environment and in a controlled manner to achieve acceptance from the customer. User confidence and product stability is established, and issues are addressed. Formal indication of customer acceptance is obtained.		[Operational Environment] Product Transition and Release Procedures	Customer Feedback Issues			8.3.4d 8.6	4.5.5.1 5.4 9.3	8.5.3	CM.01 TE.10		4-9.4.1.1 4-9.4.3
	BP.5 Release the Product for Use The product is deployed into the live operational environment in accordance with the transition and release plan. The deployed product is monitored, and if necessary the back-out arrangements are implemented. Incidents and problems are managed and recorded.		Customer Feedback Release Plan	Incident Reports Problem Reports Release Approval			8.6	8.1 8.2 9.3	8.5.3	TE.10		2-7.4.2.5 4-9.4.4 4-11.4.1 4-11.4.2
OU.2 A complete description and rationale of the trustworthy characteristics of the product or service is provided to the customer.	BP.6 Provide Confidence in the Product or Service The description and rationale of the trustworthy characteristics of the product is collated, reviewed and approved by the Trustworthy Software Release Authority. A trustworthy software release notice is created and provided along with the product.		Assurance Case	Trustworthy Software Release Notice						PR.05 TE.09		

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<p>OU.3 Proven in use concepts are used to provide confidence that products satisfy intended safety cases.</p>	<p>BP.7 Establish Proven In Use Argument Proven in use concepts are planned as part of the safety case. Candidate proven in use products are identified based on a description of the candidate and its previous use covering the identification and traceability and its requirements including safety elements. Changes to the proven in use candidate are re-evaluated to demonstrate that the proven in use status remains valid. Records to support the candidate, including changes, are maintained.</p>	<p>hazardous event ASIL Safety goals</p>	<p>Proven in use Argument</p>						<p>8-14.4</p>
	<p>BP.8 Demonstrate Proven In Use Statistical techniques are used to provide evidence of proven in use based on user testing, field trials and service periods. Proven in use credits are established and documented through analysis with records maintained.</p>								<p>8-14.4.5</p>

TEC.7 Operations Management

Process ID	TEC.7	Process Name	Operations Management	Category	Technical Processes						Type	B/C
Process Purpose	To ensure IT services and infrastructure are managed effectively and efficiently.									Version	v4r0	
Process Outcome	Process Base Practices		Input Work Products	Output Work Products			ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11
OU.1 IT services and infrastructure are managed effectively and efficiently in line with business needs and with no unexpected down time.	BP.1 Establish Operations Policies and Procedures Policies are established, approved and communicated to govern operations management supporting the delivery of IT services and infrastructure. Policies take into account all statutory, regulatory and security requirements. Procedures are defined, approved and made available for use to implement the operational management policies. The operations procedures cover planning, monitoring and control, risk and issue management, change management and the withdrawal of obsolete IT services and infrastructure. The policies, procedures and supporting work instructions are maintained under the management framework.		Business Plan Management Framework	Operations Policies Operations Procedures			4.4.1c 4.4.2 7.5 8.3.1	4.3.1h 4.3.2	4.4		7.5 A10.1 A12.1	
	BP.2 Plan Operations Operations plans and schedules are produced based on business needs and identified risks. Schedules include internal and external dependencies. Resources are identified and made available. Responsibilities and authorities are assigned and documented. Quality and operations objectives are defined and documented. Work instructions are prepared supporting the operation of IT services and infrastructure. Operations plans, schedules and work instructions are reviewed and approved for use and communicated to stakeholders and operational staff.		Business Needs Operations Procedures Risks	Operations Instructions Operations Plans Operations Schedules			7.5 8.1 8.3.2	4.5.2e 4.5.2f 4.5.2h 4.5.2k 5.2	8.1 8.5.2.1		7.5 8.1 A9.1 A9.2 A9.3 A9.4 A10.1 A12.5 A13.1	
	BP.3 Test and Implement Operations New and changed IT services and infrastructure are designed, developed and tested prior to operational use, and records are maintained. IT services and infrastructure are implemented in accordance with operational plans and schedules.		Operations Instructions Operations Plans Operations Schedules	Operations Test Reports			8.3.2 8.3.3 8.3.4 8.3.5 8.3.6 8.5.1 8.5.6	4.1.3 4.3.3 4.4.1 4.4.2 4.5.3 5.3 5.4 6.3.1 6.4 6.6 9.2	8.5.2.2 8.5.2.3 8.5.3		8.3 A12.6 A14.2	

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<p>BP.4 Monitor and Control Operations The operations are monitored to ensure that the IT services and infrastructure are provided in accordance with the operations plans and schedules. Quality and operations objectives are monitored, reviewed and reported to stakeholders periodically. Operations risks are identified and evaluated. Mitigation plans are established. Risks are reviewed periodically.</p>	<p>Issues Operations Instructions Operations Plans Operations Schedules Risks</p>	<p>Corrective Action Request Operations Reports Risk Mitigation Actions</p>	<p>8.1 8.1d 9.1.3 9.3</p>	<p>4.3.3 4.5.4.1 4.5.4.3 6.2 7.1 7.2</p>	<p>8.3.4 8.4 8.7 9.1 9.3</p>		<p>8.1 9.1 9.3 A14.2</p>	
<p>BP.5 Manage Changes to Operations Changes to IT services and infrastructure are documented, assessed for impact, approved by stakeholders and implemented.</p>	<p>Change Request</p>	<p>Change Record</p>	<p>7.1.3 8.1 8.5.6</p>	<p>5.2 9.2</p>	<p>8.5.1</p>		<p>8.1 A12.1</p>	
<p>BP.6 Withdraw Obsolete IT Services and Infrastructure Obsolete IT services and infrastructure are formally decommissioned and withdrawn from use. Redundant equipment is removed from operations use in accordance with disposal procedures.</p>	<p>[Item for Disposal] Disposal Procedures</p>	<p>[Item for Disposal] Disposal Records</p>	<p>7.1.3 8.1</p>	<p>4.3.3 5.2 6.6.2</p>	<p>8.5.1.2 8.5.2.1</p>		<p>8.1 A11.2 A12.1</p>	

TEC.8 Maintenance Management

Process ID	TEC.8	Process Name	Maintenance Management	Category	Technical Processes						Type	B/C
Process Purpose	To implement minor changes to an operational product.									Version	v4r1	
Process Outcome	Process Base Practices	Input Work Products	Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11			
OU.1 Changes to operational products are managed and implemented effectively and with no subsequent rework necessary.	BP.1 Establish Maintenance Policy and Procedures A policy for maintenance is established, approved and communicated. Procedures for implementing maintenance activities are defined, approved and made available for use. Procedures cover planning, development and deployment of changes. The policy and procedures are maintained under the management framework.	Business Plan Management Framework	Maintenance Policy Maintenance Procedures	4.4.1c 4.4.2 7.5 8.3.1					2- 7.4.2.3			
	BP.2 Plan the Maintenance A maintenance request is developed that identifies the specification of the change. Estimates of the size, effort and duration of the change are established and recorded along with their risks, assumptions and constraints in the maintenance request. The maintenance environment is established, and any resources or equipment identified. The maintenance request is reviewed, approved and retained.	Maintenance Need Maintenance Procedures	Maintenance Request	8.1 8.3.2 8.5.5			PR.03		2- 7.4.2.2			
	BP.3 Undertake the Maintenance Maintenance is performed on the product which is maintained under configuration management according to the procedure. The updated product is reviewed and verified against the change specification. Regression testing against the product requirements is undertaken. Verification records are maintained.	Maintenance Request Product	Product Verification Records	8.3.3 8.3.4 8.3.5 8.3.6 8.5.5			TE.01 TE.02 TE.03 TE.04 TE.05 TE.06 TE.07 TE.08 TE.09 TE.10	2- 7.4.2.3 2- 7.4.2.4				
	BP.4 Deploy the Maintained Product The updated product is deployed into the operational environment through a formal transition and release process, and records of deployment are retained.	Product	Transition and Release Record	8.6			CM.01 TE.11	2- 7.4.2.5				

TEC.9 Disposal

Process ID	TEC.9	Process Name	Disposal	Category	Technical Processes						Type	B/C
Process Purpose	To legally, safely and securely dispose of redundant business assets.									Version	v4r0	
Process Outcome	Process Base Practices		Input Work Products	Output Work Products		ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11	
OU.1 Assets are disposed of effectively and there is no subsequent risk to the organization.	BP.1 Establish Disposal Policy and Procedures A policy for identifying and managing the disposal of redundant business assets is established, approved and communicated. The policy takes into account all environmental, statutory, regulatory and security requirements for safe disposal of business assets and associated records. Procedures are defined, approved and made available for use to implement the disposal policy. The policy and procedures are maintained under the management framework.		Business Plan Management Framework	Disposal Policy Disposal Procedures		4.4.1c 4.4.2 7.5	4.3.1h 4.3.2			4.4 7.5 A12.1		
	BP.2 Identify Obsolete or Redundant Assets The organization identifies assets which no longer contribute to the effective operation of the business. Stakeholders are consulted to verify that the business assets are correctly identified as redundant and are valid for disposal. The method of disposal is identified and planned in accordance with the disposal procedures. The plans ensure that items are disposed of in a timely manner.		[Item for Disposal] Disposal Procedures	Disposal Plan		7.1.3 8.1	5.2 9.2			7.1 8.1 8.3		
	BP.3 Dispose of Obsolete or Redundant Assets The disposal of obsolete or redundant assets is managed in accordance with the disposal plan. Records are maintained to demonstrate that the disposal has been carried out in accordance with the environmental, statutory, regulatory and security requirements.		[Item for Disposal] Disposal Plan	Disposal Records		7.1.3 8.1	4.3.3 6.6.2 9.1			7.1 8.1 8.3 A8.3 A11.2		

TEC.10 Stakeholder Requirements Definition

Process ID	TEC.10	Process Name	Stakeholder Requirements Definition	Category	Technical Processes					Type	B/C						
Process Purpose	To define the requirements of the products and services expected by the customer.								Version	v4r1							
Process Outcome	Process Base Practices	Input Work Products		Output Work Products		ISO 9001:15		ISO 20000:11		ISO 20000:18		PAS 754:14		ISO 27001:13		ISO 26262:11	
OU.1 Customers and other stakeholders are actively engaged throughout the development of the product, and the requirements are agreed.	BP.1 Engage Requirements Stakeholders The organization identifies and engages with stakeholders throughout the development of the product to gain a clear understanding of the needs and objectives of the customer. The identified stakeholders are detailed in a stakeholder management plan.	[Identified Stakeholders]	Stakeholder Management Plan	4.2 5.1.2 5.2 7.4 8.2.1	7.1	8.2.2	PR.03	4.2 5.2 7.4 8.1									
	BP.2 Develop Stakeholder Requirements Stakeholder requirements are identified, reviewed and documented in a way that provides clear understanding and visibility to all stakeholders. The stakeholder requirements are maintained under configuration management. Stakeholder requirements are traceable throughout development, integration and release.	Stakeholder Management Plan	Stakeholder Requirements	8.2.2 8.2.3.1 8.3.3	4.5.1 5.1 5.2 9.2	7.5.4f 8.2.2	PR.03	8.2 A10.1 A14.1	3-5.4 3-6.3.1 3-7.3.1 3-8.3.1 4-6.4.1 4-7.3.1 8-6.4.1.1 8-6.4.2 8-6.4.3								
	BP.3 Validate Stakeholder Requirements Stakeholder requirements are validated, issues are addressed and agreement that their requirements have been correctly defined is gained from the customer.	Stakeholder Requirements	Stakeholder Approval	8.2.3.1	7.1 9.2	8.5.3	PR.03	8.2 A14.1	8-6.4.3.3								
	BP.4 Manage Changes to Stakeholder Requirements Changes to the stakeholder requirements are formally controlled through the change control process. Changes to the stakeholder requirements are reviewed by stakeholders for their impact on cost, schedule and customer needs. The results of the review are communicated to stakeholders, and records maintained.	Change Request Stakeholder Requirements	Change Record Stakeholder Requirements	8.1 8.2.4	5.1 5.2 9.2	8.2.2	PR.03	8.1	8-6.4.3.4								

TEC.11 Requirements Analysis

Process ID	TEC.11	Process Name	Requirements Analysis	Category	Technical Processes					Type		B/C	
Process Purpose	To transform stakeholder requirements into system requirements.									Version	v4r1		
Process Outcome	Process Base Practices		Input Work Products	Output Work Products		ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11		
<p>OU.1</p> <p>The organization has a set of established system requirements that require no unexpected rework.</p>	<p>BP.1 Develop System and safety Requirements</p> <p>The customer needs and other stakeholder requirements are analysed and interpreted into structured system requirements.</p> <p>The organization considers its own product development strategy in light of stakeholder requirements.</p> <p>System and safety requirements are reviewed and maintained under configuration management.</p>		Stakeholder Requirements	System Requirements		7.5 8.3.4a 8.3.5			PR.03		3-5.4 3-6.3.1 3-6.4.1 3-7.3.1 3-8.3.1 6-6.4 6-7.3.1 6-8.3.1 6-9.3.1 6-10.3.1 6-11.3.1 9-7.3.1		
	<p>BP.2 Estimate System Requirements Size</p> <p>An estimate of the size of the product is identified, reviewed and documented.</p> <p>The size estimate is verified and converted into budgetary, schedule and resource estimates, which are reviewed and approved by stakeholders.</p>		System Requirements	Size Estimates		8.1 8.2.3					6-7.4.17		
	<p>BP.3 Manage System Requirements</p> <p>System requirements are structured to reflect priorities, aid estimation, facilitate communication and support development.</p> <p>Each system requirement is uniquely identified and its source referenced and traceable throughout the development, integration and release activities.</p> <p>The system requirements are baselined under formal configuration control, and made available for use.</p>		System Requirements	System Requirements Traceability Report		8.5.2			PR.03				
	<p>BP.4 Manage Changes to System Requirements</p> <p>Changes to the system requirements are formally controlled through the change control process.</p> <p>Changes to the system requirements are reviewed by stakeholders for their impact on cost, schedule and customer needs.</p> <p>The results of the review are communicated to stakeholders, and records maintained.</p>		Change Request System Requirements	Change Record System Requirements		8.2.4 8.3.6 8.5.6			PR.03				

<p>OU.2</p> <p>All the requirements for identifying the trustworthy characteristics of the product are established.</p>	<p>BP.5 Establish the Basis for Providing Confirmation of Assurance</p> <p>The project has a risk managed approach for the consideration of the factors that influence the trustworthiness of the products and services. These include as a minimum the needs for assurance, privacy and the special factors relating to cryptography.</p> <p>The results of the consideration are documented in an assurance case.</p>	<p>Risks</p> <p>Stakeholder Requirements</p>	<p>Assurance Case</p>		<p>PR.05</p>	
<p>OU.3</p> <p>The organization has a set of established safety requirements that require no unexpected rework</p>	<p>BP.6 Tailor Safety Lifecycle</p> <p>Safety related objectives are understood and clear distinction is made between new development and tailored re-use.</p> <p>A safety plan is produced which includes system level safety activities and associated work products are re-worked to reflect results from analysis.</p> <p>Safety requirements are decomposed and appropriate ASIL levels are assigned.</p> <p>Supporting information is considered to enable and impact analysis to be undertaken and additional safety related work products identified.</p>	<p>Safety Plan</p> <p>Stakeholder Requirements</p>	<p>Impact Analysis</p> <p>Safety Plan</p>			<p>3-6.4.1.1</p> <p>3-6.4.2</p> <p>4-5.4.4</p> <p>6-5.4.2</p> <p>8-8.3.1</p> <p>8-10.3.1</p> <p>9-5.4</p> <p>9-6.4</p> <p>9-8.3.1</p>
	<p>BP.7 Conduct Hazard Analysis and Risk Assessment</p> <p>Hazards are analysed and risk assessments undertaken, taking into consideration safety requirements, dependant failures and impact analysis.</p> <p>Operational situations and operating modes identifying malfunctioning behaviours which result in a hazardous event are captured, together with the limits within which safe behaviour is expected.</p> <p>Hazardous events are classified and the severity of potential harm is estimated, together with the probability of exposure and the controllability of the events.</p>	<p>Impact Analysis</p> <p>Risk assessment</p> <p>Risk Management Plan</p> <p>Risks</p> <p>Safety Plan</p>	<p>hazard analysis</p> <p>Risk assessment</p>			<p>3-7.4.1</p> <p>3-7.4.2.1</p> <p>3-7.4.2.2</p> <p>3-7.4.3</p> <p>3-8.3.1</p> <p>4-9.3.1</p> <p>6-7.4.16</p> <p>9-7.4</p>
	<p>BP.8 Determine ASIL and Safety Goals</p> <p>The hazard analysis and risk assessment report is used to establish an Automotive Safety Integrity Level (ASIL) for each hazardous event.</p> <p>Safety goals are identified and reviewed for hazardous events and safety states and their attributes are documented.</p> <p>The consistency between the hazard analysis and risk assessment report, ASILS and the safety goals are reviewed.</p>	<p>Hazard analysis and Risk assessment report</p> <p>Stakeholder Requirements</p>	<p>hazardous event ASIL</p> <p>Review Records</p> <p>Safety goals</p>			<p>3-7.4.4</p> <p>3-7.4.5</p> <p>3-8.3.1</p> <p>4-7.4.2</p> <p>4-8.3.1</p> <p>4-9.3.1</p> <p>6-6.4.3</p>

<p>BP.9 Establish Safety Requirements</p> <p>For each safety goal, a functional and technical safety requirement is defined. Interfaces are identified and external measures are specified. Emergency operations are stipulated for safety states which cannot be changed within acceptable time intervals.</p> <p>External measures are documented and assumptions are captured.</p> <p>The acceptance criteria for safety validation is specified and the overall safety concept is confirmed.</p> <p>The safety requirements, including interfaces are reviewed.</p>	<p>hazard analysis and Risk assessment</p> <p>hazardous event ASIL</p> <p>Safety goals</p> <p>Stakeholder Requirements</p>	<p>Review Records</p> <p>safety requirements</p> <p>Validation Plan</p>						<p>3-8.4.1</p> <p>3-8.4.2</p> <p>3-8.4.3</p> <p>3-8.4.4</p> <p>3-8.4.5</p> <p>4-5.3.1</p> <p>4-6.3.1</p> <p>4-6.4.2</p> <p>4-6.4.3</p> <p>4-6.4.4</p> <p>4-6.4.5</p> <p>4-6.4.6</p> <p>4-7.3.1</p> <p>4-8.3.1</p> <p>4-9.3.1</p> <p>6-6.3.1</p> <p>6-6.4</p> <p>6-7.3.1</p> <p>6-8.3.1</p> <p>6-9.3.1</p> <p>6-</p> <p>10.3.1</p> <p>6-</p> <p>11.3.1</p> <p>9-5.3.1</p> <p>9-6.3.1</p> <p>9-8.3.1</p>
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TEC.12 Service Level Management

Process ID	TEC.12	Process Name	Service Level Management	Category	Technical Processes						Type	B/C
Process Purpose	To manage the performance of services.									Version	v4r0	
Process Outcome	Process Base Practices	Input Work Products	Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11			
OU.1 Agreed service levels are achieved and the customer is satisfied with the services provided.	BP.1 Establish Service Level Management Policy and Procedures A policy for governing service level management activities is established, approved and communicated to ensure that services are planned, agreed, managed, delivered and reported. The procedures are defined, approved and made available for use, to implement the policy and customer requirements. Procedures include service definition, monitoring and reporting. The policy and procedures are maintained under the management framework.	Business Plan Management Framework	Service Level Management Policy Service Level Management Procedures	4.4.1c 4.4.2 7.5 8.5.5	4.1.2 4.3.1 4.3.2	4.4						
	BP.2 Plan Service Management A service management plan is prepared to adhere to the policy, achieve objectives and fulfil service requirements. The service management plan is reviewed by stakeholders and approved by management. Changes to the service management plan are undertaken in accordance with a defined process which includes communication of the changes to stakeholders. The service management plan is maintained under the management framework.	Service Level Management Procedures Stakeholder Requirements	Service Management Plan	8.1 8.2.2 8.2.4 8.5.6	4.1.1b 4.3.1b 4.5.1 4.5.2	5.1b 6.3 7.3 7.4 7.5.4c 8.5.2.1						
	BP.3 Implement, Agree and Deliver Services New or changed services are designed, implemented and transferred into operations. Service levels are defined, reviewed and agreed with the customer in service agreements. The customer service agreements are maintained under change control. The service is delivered in accordance with the service management plan and customer service agreements.	Customer Requirements Service Level Management Procedures Service Management Plan Service Provision Historical Data	Human Resource Requirements Infrastructure Requirements Service Catalogue Service Level Agreements Work Environment Requirements	8.2.3 8.5.1	4.2 4.3.1d 4.3.1e 4.5.3 5.3g 5.3i 5.3j 6.1 9.3	7.5.4g 7.5.4h 8.2.1 8.2.4 8.3.3 8.5.2.2 8.5.2.3 8.5.3						
	BP.4 Report Service Performance Service level reports are prepared at planned intervals. Reports are provided to stakeholders including management and customers. Reports include performance data, analysis of major incidents, trends and customer satisfaction measures.	Customer Feedback Incident Reports Service Management Plan Service Performance Data	Service Level Reports	8.2.1a 8.5.1d 9.1.1 9.1.3	4.5.4.3b 5.3k 6.1 6.2	7.4 8.3.2 8.3.3						

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<p>BP.5 Manage Services</p> <p>Services and service levels are periodically reviewed with stakeholders. Reviews consider performance and feedback received from customers. Any deviation from expected performance levels is investigated and addressed.</p> <p>Where changes are agreed, the revised services and service levels are agreed with stakeholders and recorded.</p> <p>Changes arising from reviews are formally documented, agreed and implemented.</p>	Service Catalogue	Change Request	4.4.1h	4.2	8.1			
	Service Level Agreements	Corrective Action Request	5.1.1i	4.5.3	8.2.2			
	Service Level Reports	Improvement Request	8.5.6	4.5.4.3	8.2.4			
	Service Management Plan		9.1.1	6.1	8.3.2			
			9.1.3	7.1	8.5.1.2			
		9.3	9.2	8.5.1.3				
		10	9.3					

TEC.13 Architectural Design

Process ID	TEC.13	Process Name	Architectural Design				Category	Technical Processes				Type	B/C
Process Purpose	To produce a top-level design that identifies the major components and interfaces of the product.										Version	v4r1	
Process Outcome	Process Base Practices		Input Work Products		Output Work Products		ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11	
OU.1 The top-level design addresses all the system requirements, with no defects found in development.	BP.1 Establish Development Approach Different development approaches are considered in formulating the architectural design, and an approach is selected that best meets the system requirements. The selection decision and supporting rationale is documented, reviewed and approved.		Lifecycle Model Description and Assets		Selected Lifecycle		8.3.2 8.5.1			TE.01 TE.02 TE.03 TE.04		4-5.4.4 6-5.4.1 6-5.4.5 6-5.4.6 6-8.3.1	

<p>BP.2 Create Architectural Design</p> <p>The architectural design is created, taking into account the architectural standards of the organization.</p> <p>The major components and interfaces necessary to meet the system requirements are identified. System requirements are traceable to the major components.</p> <p>Interfaces include interactions between system components, and between the system and the external environment.</p> <p>Design constraints, assumptions and dependencies are documented.</p>	<p>System Requirements</p>	<p>Architectural Design Traceability Report</p>	<p>7.5 8.3.5</p>		<p>TE.01 TE.03</p>	<p>3-8.4.3 4-7.4.1 4-7.4.2 4-7.4.5 4-7.4.6 4-8.3.1 6-5.3.1 6-6.3.1 6-6.4.4 6-7.3.1 6-7.4.1 6-7.4.2 6-7.4.3 6-7.4.4 6-7.4.5 6-7.4.9 6-7.4.11 6-7.4.14 6-7.4.15 6-8.3.1 6-9.3.1 6-10.3.1 6-11.3.1 9-5.3.1 9-6.3.1 9-6.4 9-7.3.1 9-8.3.1</p>
<p>BP.3 Review Architectural Design</p> <p>The architectural design, including interfaces, is reviewed by stakeholders to ensure all system requirements have been adequately addressed.</p> <p>The customer is advised of any adverse impact on cost, schedule and customer needs arising from the proposed architectural design, along with possible alternative designs.</p>	<p>Architectural Design</p>	<p>Architectural Design Customer Notifications Review Records</p>	<p>8.3.4b 8.3.5</p>		<p>TE.03</p>	<p>4-7.4.3 6-6.4.7 6-6.4.8 6-7.4.18 6-8.3.1</p>

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	<p>BP.4 Manage Changes to the Architectural Design Changes to the architectural design are formally controlled through the change control process. Changes to the architectural design are reviewed by stakeholders for their impact on cost, schedule and customer needs. The results of the review are communicated to stakeholders, and records are maintained.</p>	Architectural Design Change Request	Architectural Design Change Record	8.3.6			TE.03		
OU.2 A safety analysis is performed to identify the consequences of faults and failures and all hazards and risks are known	<p>BP.5 Perform Safety Analysis Safety analysis is performed to validate safety objectives to verify safety requirements and to support impact assessment in accordance with appropriate standards and guidelines. Qualitative and quantitative techniques are used appropriately to support the safety analysis</p>	Architectural Design Safety Plan safety requirements	safety analysis report						6- 7.4.12 6- 7.4.13 9.8.4

TEC.14 Development Implementation

Process ID	TEC.14	Process Name	Development Implementation	Category	Technical Processes					Type	B/C
Process Purpose	To transform the system requirements and architectural design into a product.									Version	v4r1
Process Outcome	Process Base Practices		Input Work Products	Output Work Products		ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11
OU.1 The organization develops a product that requires no unexpected rework.	BP.1 Establish the Development Environment The development environment is established in line with the requirements of the project. The components of the environment are documented under configuration management.		System Requirements	[Development Environment]		8.3.2 8.5.1			TE.02 TE.04		6-5.4.1 6-5.4.5 6-5.4.6
	BP.2 Identify Component Sources The architectural design is reviewed to establish those components requiring development and those to be acquired. The review considers the impact on cost, schedule and customer needs.		Architectural Design System Requirements	Component Source Analysis		8.3.2e			TE.04		6-7.4.6
	BP.3 Design Components Components and interfaces are designed to ensure that they meet the architectural design, system requirements and design standards. Traceability between the system requirements and product and system components is established and monitored. The designs are reviewed, and where appropriate measured, approved and maintained under configuration management.		Architectural Design System Requirements	Detailed Design Traceability Report		7.5 8.3.2 8.3.5			TE.03 TE.04		4-7.4.4 4-7.4.7 4-7.4.8 6-5.4.7 6-6.3.1 6-7.3.1 6-7.4.6 6-7.4.7 6- 7.4.10 6-8.3.1 6-8.4 6-9.3.1 6- 10.3.1 6- 11.3.1 8- 12.4.3. 1 9-5.4

<p>BP.4 Implement Components The components are implemented or acquired. Components and interfaces are implemented in accordance with organizational standards. Components are verified to ensure that the design has been satisfied and requirements are met. The product components are maintained under configuration management.</p>	<p>Component Source Analysis Detailed Design</p>	<p>Product Components Verification Records</p>	<p>8.3.5</p>			<p>TE.05 TE.06 TE.07</p>	<p>6-5.4.7 6-5.4.7 6-7.3.1 6-7.4.7 6- 7.4.10 6-8.3.1 6-8.4.4 6-8.4.5 6-9.3.1 6-9.4.2 6- 10.3.1 6- 10.4.7 6- 11.3.1 8- 12.4.3 8- 12.4.3. 4 9- 5.4.13</p>
<p>BP.5 Manage Changes to the Detailed Design and Product Components Changes to the detailed design and product components are controlled through the change control process. Changes to the detailed design and product components are reviewed by stakeholders for their impact on cost, schedule and customer needs. The results of the review are communicated to stakeholders, and records maintained.</p>	<p>Change Request Detailed Design Product Components</p>	<p>Change Record Detailed Design Product Components</p>	<p>8.3.6</p>			<p>TE.03 TE.04</p>	

TEC.15 Continuity, Availability and Contingency Management

Process ID	TEC.15	Process Name	Continuity, Availability and Contingency Management				Category	Technical Processes				Type	B/C
Process Purpose	To minimize the effect of foreseeable disruption caused by IT infrastructure or facilities to the business operations.										Version	v4r0	
Process Outcome	Process Base Practices		Input Work Products		Output Work Products		ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11	
OU.1 There are no disruptions to the business operations as a result of IT infrastructure or facilities failures.	BP.1 Establish Continuity, Availability and Contingency Management Policy and Procedures A policy for continuity, availability and contingency management is established, approved and communicated. Procedures are defined, approved and made available for use, to implement the continuity, availability and contingency management policy. Procedures cover the practices for the formal identification and analysis of possible disruptions to business operations and the planning and testing of contingency arrangements. The policy and procedures are maintained under the management framework.		Business Plan Management Framework		Continuity, Availability and Contingency Management Policy Continuity, Availability and Contingency Management Procedures		4.4.1c 4.4.2 7.5	4.3.1 6.3.2	4.4		4.4 7.5 A17.1		
	BP.2 Identify and Analyse Potential Disruptions The organization identifies the IT Infrastructure and facilities that are key to the business operations. Vulnerabilities and threats to the key IT infrastructure and facilities are analysed to identify controls that address the potential disruption. The controls include prevention, acceptance, transfer and mitigation.		Asset Log Continuity, Availability and Contingency Management Procedures Risks		Risks Service Controls		6.1.1 7.1.3	4.5.5.2 6.3.1	8.7.1 8.7.2		6.1 A17.2		
	BP.3 Plan and Develop the Controls A plan is produced to define the activities, schedule, resources, tools, roles and responsibilities to implement the controls. The plan is aligned with operational needs, constraints and the business plan. The controls are developed in accordance with the plan and an evaluation schedule is prepared. Management oversee the implementation of the plan and corrective action is taken as required.		Business Plan Service Controls		Control Evaluation Schedule Corrective Action Request Service Continuity Plan		6.1.2 8.1	6.3.2	8.7.1 8.7.2		6.1 8.1 A12.1 A12.2 A12.3 A17.1		
	BP.4 Evaluate the Controls The implemented controls are evaluated on a planned basis to confirm that they address potential disruptions and corrective action taken as necessary. The results of the evaluations are reviewed periodically and improvements identified. Records of the evaluation are maintained.		Control Evaluation Schedule Service Continuity Plan Service Controls		Control Evaluation Records Corrective Action Request Improvement Request		4.4.1h 5.1.1i 10	4.5.5.1 6.3.3	8.7.2		9.1 10		

ITS.1 Domain Engineering

Process ID	ITS.1	Process Name	Domain Engineering	Category	IT Specific Processes					Type	C
Process Purpose	To improve the business performance through the reuse of related work products, information and knowledge.								Version	v4r0	
Process Outcome	Process Base Practices		Input Work Products	Output Work Products		ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11
OU.1 Business performance and customer satisfaction is improved through the identification and reuse of organizational assets.	BP.1 Establish Domain Engineering Policy and Procedures A policy is established, approved and communicated to support the identification, improvement and use of reusable organizational assets. Procedures are defined, approved and made available for use to implement the domain engineering policy. The policy and procedures are maintained under the management framework.		Business Plan Management Framework	Domain Engineering Policy Domain Engineering Procedures		4.4.1c 4.4.2 7.5					
	BP.2 Identify Organizational Reusable Assets Organizational assets, including work products, information and knowledge, are periodically reviewed to identify reuse opportunities within selected domains. Identified reusable assets are documented at the organizational level along with asset owners, the conditions for reuse, the potential benefits and domain that is covered by the asset. The reusable asset document is controlled under the change control process.		[Assets]	Reusable Asset Repository		7.1.6 7.5.1b					
	BP.3 Ensure that the Assets are Reusable The identified assets are reviewed and improved or updated to ensure reusability can be achieved with minimal additional work or impact on the use of them. Approval to update or improve the reusable asset is obtained from the asset owner. The updated or improved assets are maintained in organizational repositories.		Reusable Asset Repository	Reusable Asset Repository		7.1.6 7.5.2					
	BP.4 Benefit from the Reusable Assets Projects and other work groups consider the available reusable assets during the early stages of planning delivery work. Suitable reuse is made of the appropriate assets as part of the project or other work group activities. The adoption and experience of reusing the organizational assets are reviewed at the end of the delivery work. The review is documented and made available to the asset owners to support continual improvements.		Reusable Asset Repository	Lessons Learnt Report Work Products		7.5.3.1 7.5.3.2					
	BP.5 Incorporate Experiences into the Reusable Assets The organizational assets are reviewed against the project and other work group experiences in using the reusable assets and are improved as required.		Lessons Learnt Report	Improvement Request		4.4.1h 5.1.1i 7.1.6 10					

ITS.2 Asset Management

Process ID	ITS.2	Process Name	Asset Management	Category	IT Specific Processes						Type	B/C
Process Purpose	To identify and manage IT assets.									Version	v4r0	
Process Outcome	Process Base Practices		Input Work Products	Output Work Products			ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11
OU.1 IT assets are identified and losses are not incurred as a result of asset management.	BP.1 Establish Asset Management Procedures Asset management procedures are defined, approved and made available for use. The procedures cover the identification of IT assets and the maintenance of the IT asset log. Logging information required by the organization to manage the IT assets is identified. The procedures are maintained under the management framework.		Business Plan Management Framework	Asset Management Procedures			4.4.2 7.1.6 7.5	4.3.1 9.1	4.4		4.4 7.5	
	BP.2 Identify and Log IT Assets Assets that need to be controlled to support the IT infrastructure are identified and logged. The nature of control including ownership and acceptable use is documented.		[Assets]	Asset Log			7.1.3 7.5	9.1	8.2.5	PR.06	7.1 7.5 A8.1 A8.2	
	BP.3 Changes to IT Assets The IT asset log is updated following changes to the IT infrastructure.		Asset Log Change Request	Asset Log			7.1.3 7.5	9.1	8.2.5	PR.06	7.1 7.5 A12.1	
	BP.4 Review IT Asset Log The IT asset log is reviewed on a periodic basis to ensure its integrity. Review records are maintained. Discrepancies are identified and resolved.		Asset Log	Corrective Action Request Review Records			8.7.1 8.7.2 9.1 10.1b 10.2	4.3.3 4.5.5.1	8.2.5	PR.06	9.1 10.1 A12.1	

AGR.1 Acquisition and Contract Management

Process ID	AGR.1	Process Name	Acquisition and Contract Management				Category	Agreement Processes				Type	B/C
Process Purpose	To have contracts in place to ensure terms of business are understood and agreed.										Version	v4r0	
Process Outcome	Process Base Practices		Input Work Products		Output Work Products		ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11	
OU.1 There are no disputes arising from the supply or procurement of products and services.	BP.1 Establish Contract Management Procedures Procedures are defined, approved and made available for use, to ensure that contracts are managed in line with business needs. Procedures take into account all statutory, regulatory and security requirements, and identify authorization and approval responsibilities. The procedures are maintained under the management framework.		Business Plan Management Framework		Contract Management Procedures		4.4.2 7.5	4.3.1 7.2	4.4		4.4 7.5 A15.2		
	BP.2 Define Standard Terms and Conditions The organization defines, reviews and approves standard terms and conditions of business which capture the preferred ways of working with other parties. The standard terms and conditions include an outline of agreed service levels and methods for managing changes to contracts.		Business Needs Business Plan Statutory and Regulatory Requirements		Standard Contract Terms and Conditions		8.2.2	7.2	8.3.2 8.3.3		A15.1		
	BP.3 Negotiate and Agree Contracts Negotiations take place between contracting parties to ensure the terms of business are understood and are mutually acceptable. The contracting parties agree the product or service to be supplied. Contracts are formally approved by both parties and maintained under the data and record management process. Records of the negotiations and agreements are maintained.		Customer Requirements Standard Contract Terms and Conditions		Supplier Contract		8.2.3.1 8.2.3.2	4.3.3 5.3g 7.2	8.3.3		A15.1		
	BP.4 Manage Change Proposed changes to contracts are analysed to determine the necessary action to be taken and the impact on operational activities. Changes are formally agreed by contracting parties.		Change Request Supplier Contract		Supplier Contract		8.2.4 8.5.6	7.2	8.5.1		A15.2		

AGR.2 Supply Management and Business Relationships

Process ID	AGR.2	Process Name	Supply Management and Business Relationships	Category	Agreement Processes					Type	B/C
Process Purpose	To establish and manage an effective supply chain.									Version	v4r0
Process Outcome	Process Base Practices		Input Work Products	Output Work Products		ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11
OU.1 The organization manages suppliers effectively and does not encounter any disruptions to the supply chain.	BP.1 Establish Business Relationship Framework The organization identifies its suppliers, along with the processes, roles and responsibilities for managing supplier relationships.		Business Plan	Supplier Management Plan		4.2 8.4.1	7.1 7.2	8.2.3.1 8.3.2 8.3.4.1	PR.02	4.2 A15.1 A15.2	
	BP.2 Establish Supplier Management Procedures Procedures for managing supplier relationships are defined covering procurement, management of suppliers, review/acceptance of supplied products and services, communication, supplier feedback, complaints and escalations. Responsibilities for managing each supplier are assigned to designated individuals. The procedures are maintained under the management framework.		Management Framework Supplier Management Plan	Supplier Management Procedures Supplier Management Responsibilities		7.5 8.4.1 8.4.2	4.3.1 7.2	4.4	PR.02	7.5	
	BP.3 Define, Agree and Implement Supplier Agreement Formal contracts are prepared, reviewed and approved between the organization and the supplier. Records of the review are maintained. The agreements cover as a minimum what is to be provided, competency requirements, communications, monitoring and review requirements, verification and validation needs, and necessary approvals. Suppliers are managed in accordance with the formal contract. Changes to the formal contract are handled through a formal change control process.		Supplier Contract	Change Request Review Records		8.4	4.2 7.2	7.5.4i 7.5.4j 8.2.3.1 8.2.3.2 8.3.1 8.3.4.1 8.3.4.2	PR.02	A15.2	
	BP.4 Monitor Supplier Performance The performance of suppliers is reviewed on a regular and planned basis. Reviews consider the performance of the supplier in meeting delivery objectives and contractual obligations. Deviations from required performance are documented and appropriate action taken.		Stakeholder Requirements Supplier Contract Supplier Management Plan Supplier Performance Data	Corrective Action Request Supplier Performance Report		8.4.1 8.4.2 9.1 10.2	4.5.5.1 7.2	8.1 8.3.2 8.3.4.1 8.3.4.2	PR.02	9.1 10.1 A15.2	
	BP.5 Review Relationship Regular communication takes place between the organization, the supplier and other stakeholders to review the extent to which the supplier addresses the needs and expectations of the business. Action is taken to address improvement opportunities.		Supplier Performance Report	Improvement Request		4.4.1h 5.1.1i 8.4.1 8.4.2 10	4.5.5.1 7.2	8.3.4.1	PR.02	7.4 10 A15.2	

MAT.1 Quantitative Performance Management

Process ID	MAT.1	Process Name	Quantitative Performance Management	Category	Maturity Processes						Type	M
Process Purpose	To identify key processes that are managed within organizationally defined performance limits.									Version	v4r0	
Process Outcome	Process Base Practices	Input Work Products	Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11			
OU.1 Projects and other work groups quantitatively manage key processes that operate within organizational performance levels.	BP.1 Establish Quantitative Performance Management Procedure A quantitative performance management procedure is defined, approved and made available for use by projects and other work groups. The procedure defines the practices for using historical organizational process data to understand current capabilities and to monitor the performance of key processes. The procedure is maintained under the management framework.	Business Plan Management Framework	Quantitative Performance Management Procedure	4.4.2 7.5								
	BP.2 Quantitatively Relate Business Objectives to Process Objectives Key processes are formally identified that contribute directly to achieving the aims and objectives of the business plan. The key processes are analysed to identify the performance indicators. Corresponding operational control limits are established to align with business objectives. Operational control limits are determined using historical data and trends from projects and other work groups applying the key processes defined by the management framework. Operational control limits are reviewed periodically and updated based on changes in business objectives, performance and variation of key processes. The selection of key processes is reviewed periodically and updated to accommodate any changes in business needs, plans and objectives. Changes to key process documentation are formally controlled through the change control process.	Business Plan Quantitative Performance Management Procedure	Key Process Definitions	4.4.1g 6.2.1 7.1.5.1 8.5.1a 8.5.1f 9.1.1								
	BP.3 Manage Key Processes to Achieve Performance Objectives Appropriate analysis and control techniques are used to identify the special causes of variations in the implemented key processes, based on the attributes that influence their performance. Variation in key processes is determined from indicators of process performance and control limits. Changes in control limits are made available to the organization.	Key Process Definitions	Key Process Variation	5.1.1a 5.1.1c 5.1.1g 7.1.5.1 8.1d 8.1e 8.5.1c 9.1.3								

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<p>BP.4 Improve Performance of Key Processes</p> <p>Performance falling outside the control limits of the key processes is investigated and the cause determined. Corrective action is taken when performance is unacceptable to bring the project or work group using the key processes in line with the organizational performance limits.</p> <p>Records of the investigation are maintained to support organizational key process improvements and revise the organizational performance limits.</p>	<p>Key Process Variation</p>	<p>Corrective Action Request</p> <p>Key Process Analysis</p>	<p>4.4.1h</p> <p>5.1.1i</p> <p>8.5.1f</p> <p>9.1.3</p> <p>10</p>					
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MAT.2 Quantitative Process Improvement

Process ID	MAT.2	Process Name	Quantitative Process Improvement	Category	Maturity Processes						Type	M
Process Purpose	To improve key processes to achieve required business improvement goals.									Version	v4r0	
Process Outcome	Process Base Practices		Input Work Products	Output Work Products	ISO 9001:15	ISO 20000:11	ISO 20000:18	PAS 754:14	ISO 27001:13	ISO 26262:11		
OU.1 The organization improves and optimizes key processes to satisfy business needs.	BP.1 Establish Quantitative Process Improvement Procedure A quantitative process improvement procedure is defined, approved and made available for use by the organization to improve key processes. The procedure is maintained under the management framework.		Business Plan Management Framework	Quantitative Process Improvement Procedure	4.4.2 7.5							
	BP.2 Establish Improvement Plans for the Key Processes Quantifiable improvement objectives are established for key processes based on the business needs, plans and objectives. Improvements to the key processes are established based on common causes of variation of the key processes, industry best practices and benchmarks, technological advancements and innovations, along with improvement recommendations from the organization. Recommendations for improvement are formally documented and approved by senior management. They are supported by an analysis of the return on investment for the proposed improvement, along with a formal definition of the expected improvements in quantified performance. The return on investment for the improvement proposals is documented and understood. Quantitative improvement plans for the key processes are prepared with details of the tasks and activities necessary to implement the improvement and the return on investment. The plans are maintained under change control.		Business Plan Quantitative Process Improvement Procedure	Quantitative Key Process Improvement Plans	4.4.1g 4.4.1h 5.1.1i 6.3 7.5 10							
	BP.3 Implement the Improvement Plans for the Key Processes Improvements are managed using the quantitative key process improvement plans to completion. The performance of improvements to key processes is formally evaluated to ensure expected gains have been achieved.		Quantitative Key Process Improvement Plans	Key Process Definitions Quantitative Key Process Improvement Results	4.4.1g 4.4.1h 5.1.1i 6.3 10.3							