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# Implementing a Service Management System in a Federated Multi-Supply Environment

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*EGI Foundation*

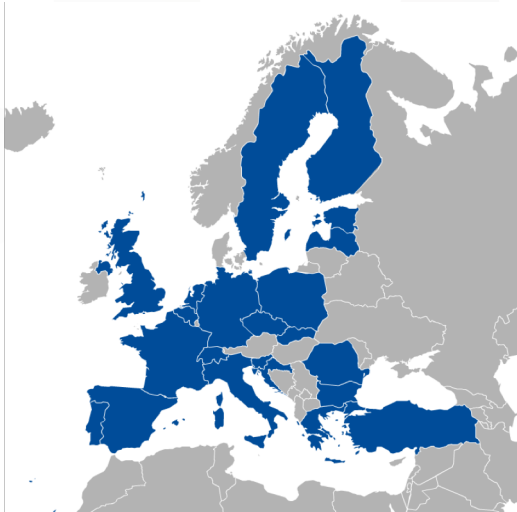


The work of the EGI Foundation  
is partly funded by the European Commission  
under H2020 Framework Programme

# EGI Organisation and Operations

*(very) High-level overview*

- **23 Countries**
- **1 EIRO: CERN**



[www.egi.eu/about/egi-foundation/](http://www.egi.eu/about/egi-foundation/)



- **260+ data & computing centres**
- **Across 45+ countries**
- **4.4 Billion CPU core wall time delivered in 2018**
  - 1, million computing cores
  - 356 PB disk & 380 PB tape storage
- **+1170 open access publications in 2018**
- **+41 new international projects**
- **31 large scale ESFRI projects/landmarks supported**



## Local infrastructure capacity building and operations

- National funding
- ESIF
- Research funds



EGI Participants



## Federation services and processes

- EGI council fees
- EGI participants' in kind contributions
- H2020
- Paid services & consultancies



EGI Foundation



## Research and Innovation Human networks

- National funding
- H2020

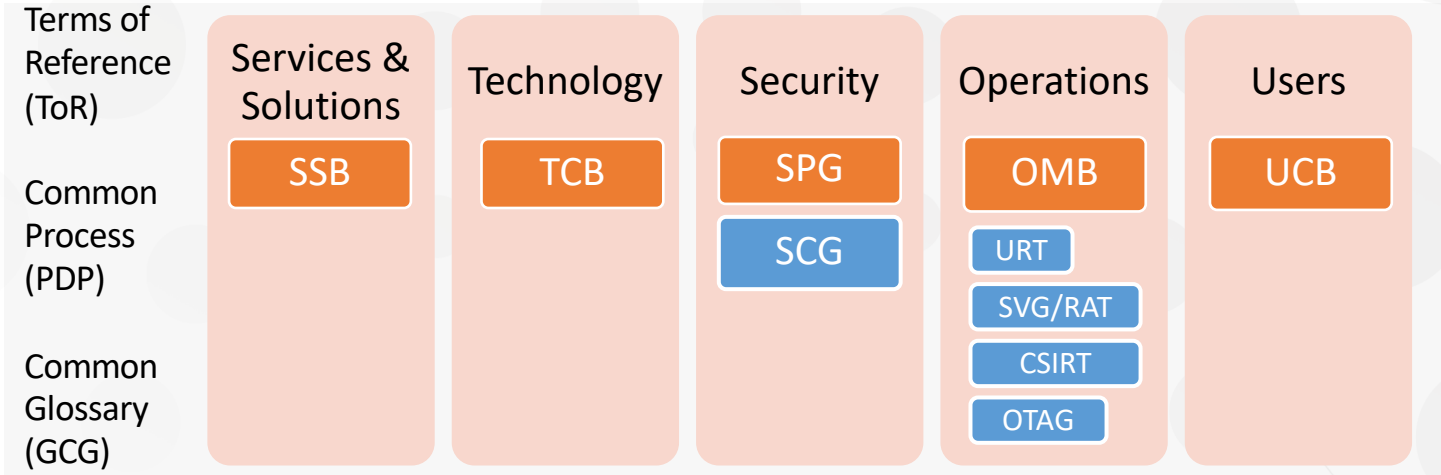


EGI Community

SIB

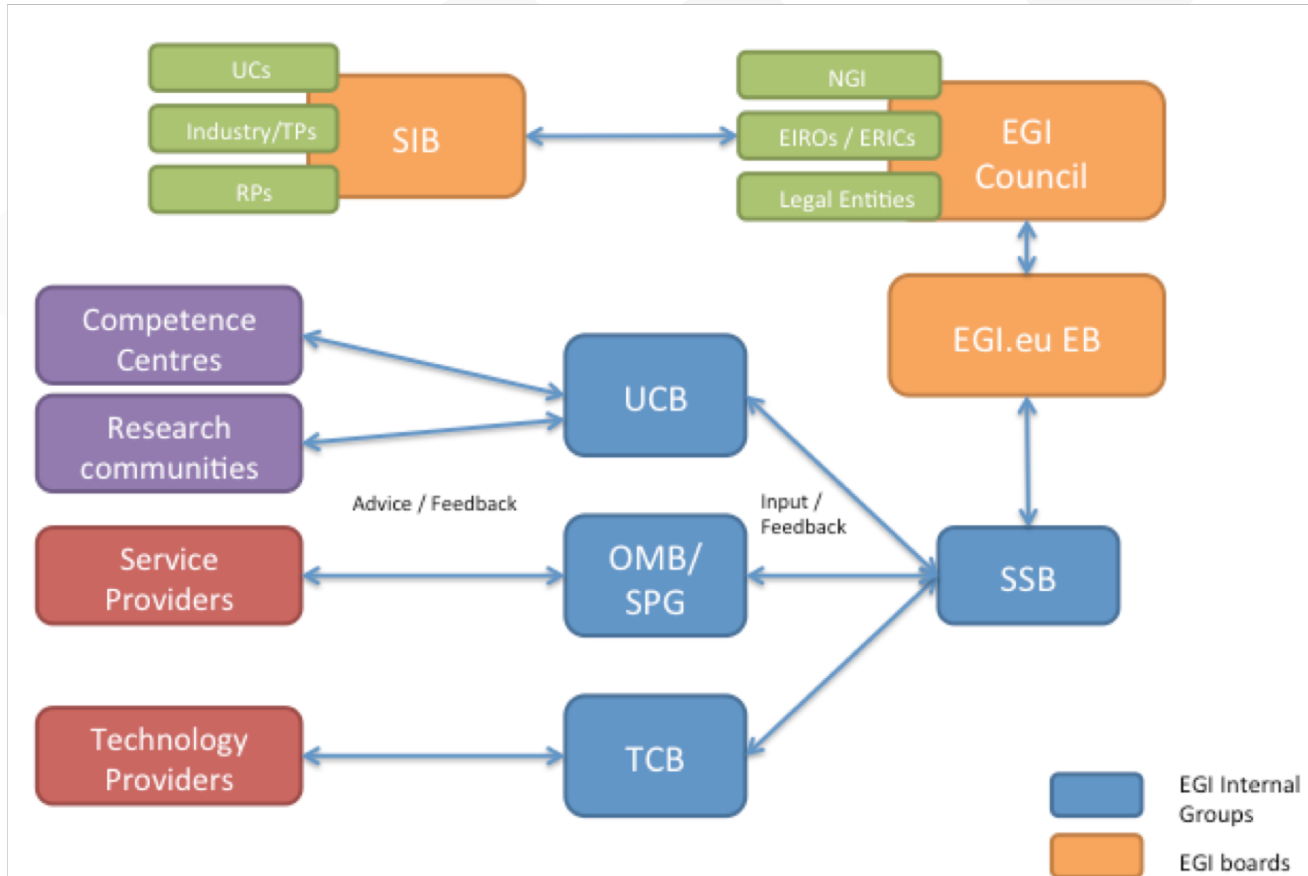
EGI Council

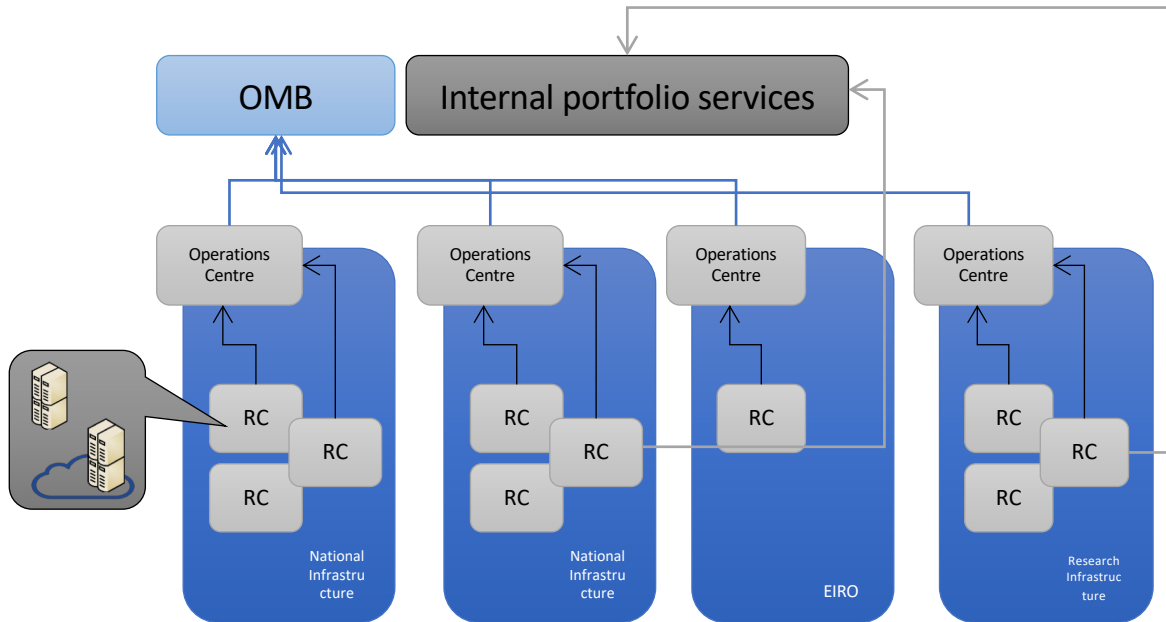
EGI.eu Executive Board



Primary group  
 Supporting group

# EGI Foundation Governance







# IT Service Management

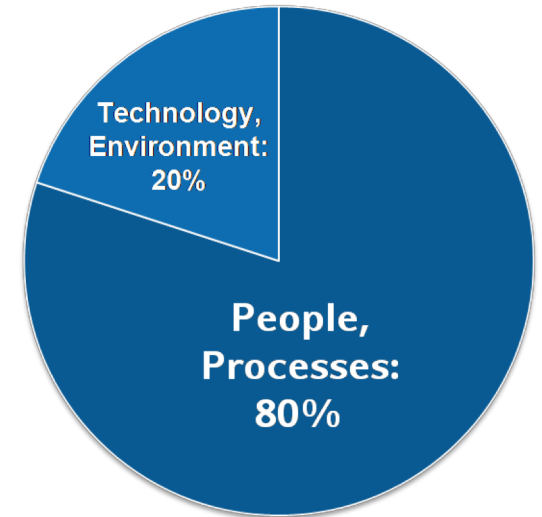
## *Introduction*

- **Why IT service management (ITSM)?**

- About 80% of all IT service outages originate from "people and process issues"
- Duration of outages and degradations **significantly dependent on non-technical factors**

- **IT service management**

- Focuses on the provision of high quality IT services that **meet customers' and users' expectations**
- Defines, establishes and maintains service management **processes** through assigned **roles** and responsibilities



Reasons for service outages  
[Gartner]

- Shift in expected results
  - FP7 -> H2020 = Publications -> Services
  - Focus on Sustainability!
  - Major cultural shift
- Increased customer expectations
  - Commoditization of digital services
  - XaaS (Anything as a Service) now commonplace
- Skills, experience and knowledge gap
  - Limited to no formal training in how to professionally plan, deliver, operate and control IT services



***We are now  
service providers?***

### Organizations

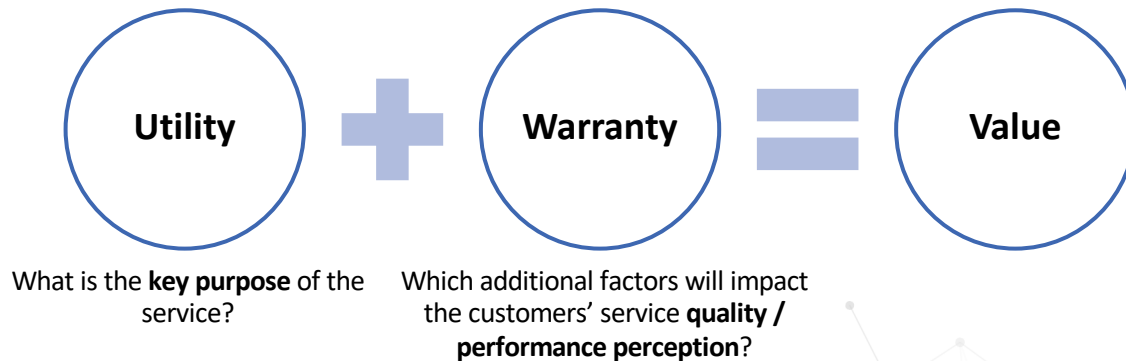


### Federations / Projects



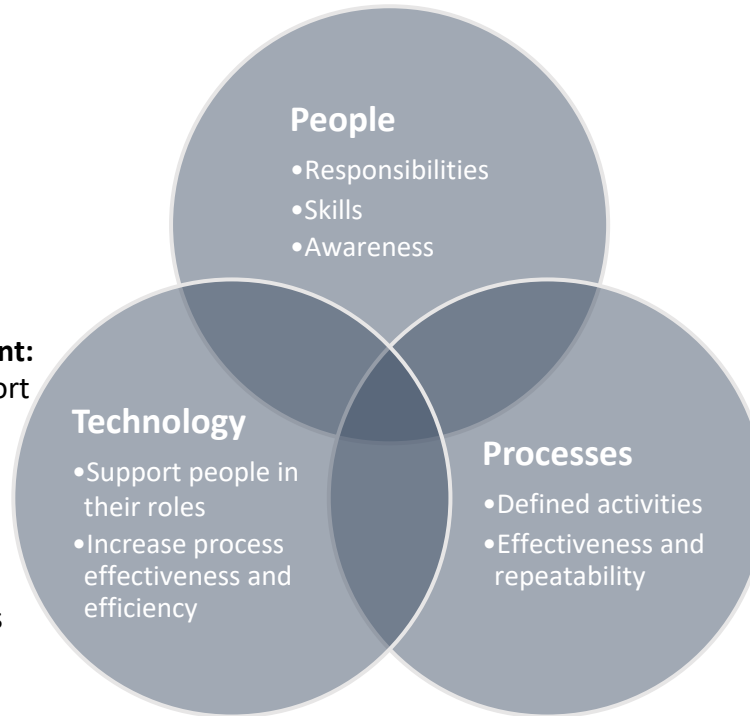
*\*Non-exhaustive list*

- **Service is...**
  - ... a means of delivering **value** to customers ...
  - ... by supporting them in **achieving** their **goals**
  - ... and can be provided (sold) **on its own**
- What is value from a customer perspective?



## Typical tools for service management:

- Workflow support tool
- (Trouble) ticket tool
- Wiki
- Excel sheets
- Word templates
- ...



## Typical service management processes:

- Service portfolio management
- Service level management
- Incident management
- Change management
- Capacity management
- Information security management
- ...

# Implementing FitSM

*7-Step Approach*

- Standards family for lightweight IT service management
- Suitable for IT service providers of any type and scale
- Main design principle: Keep it simple!
- All FitSM parts are freely released under Creative Commons licenses
- FitSM is operated and managed by ITEMO (non-profit)
- Certification provided by ICO-Cert and APMG International



[www.fitsm.eu](http://www.fitsm.eu)

 [FitSM\\_Standard](https://twitter.com/FitSM_Standard)

*The development of FitSM was originally funded by the European Commission through an EC-FP7 project "FedSM"*





No/little formal ITSM

FitSM Solution

- Less unfamiliar
- More achievable
- More suitable
- Path to 'full' ITSM
- Freely available

'Full' commercial ITSM

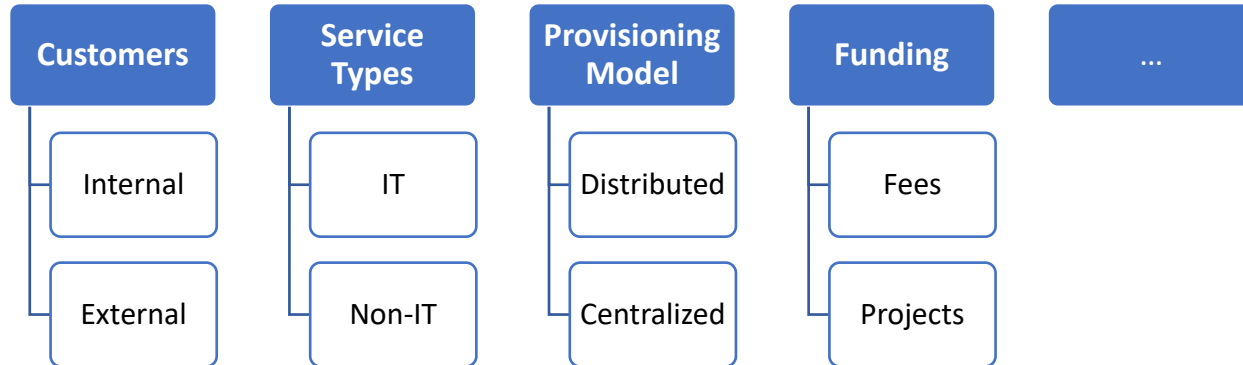


ISO/IEC 20000



## *7-Step Approach*

1. Define the rationale and scope for implementing service management and get top management commitment and support
2. Identify/assign roles and responsibilities for planning/implementation
3. Ensure training and awareness
4. Perform an initial organisation maturity assessment
5. Define a service management plan with overall goals and milestones
6. Start defining policies, activities and procedures for each process
7. Re-assess progress through formal reviews or audits (e.g. annually)



# EGI Service Portfolio

*The list of services that EGI as a federation offers for research & innovation*

## Compute



Cloud Compute



Cloud Container Compute **BETA**



High-Throughput Compute



Workload Manager **BETA**

## Storage and Data



Online Storage



Archive Storage



Data Transfer

## Training



FitSM Training



ISO 27001 Training



Training Infrastructure

## Applications



## Security



Check-in **BETA**

# EGI Internal Service Portfolio

*The list of services delivered internally to the EGI federation to enable the EGI providers to work together*

## Coordination



Communications



Project Management and Planning



Strategy and Policy Development



Community



Operations and Support



IT Service Management



Security



Technology

## Operations



Accounting



Collaboration Tools



Configuration Database



Helpdesk



Operational Tools



Service Monitoring



Validated Software and Repository



Marketplace **BETA**

## Security



Attribute Management



Check-in

- **Integrated management system** is the framework of policies, processes and procedures used by EGI Foundation to ensure that it can fulfil all the tasks required to achieve its objectives.
- **The objective:**
  - to ensure systematic and professional operation and delivery of EGI Foundation services.
  - to plan, implement, monitor and continually improve all business processes under the responsibility of EGI Foundation.
- It integrates all of the distributed organization's systems and processes into **one complete framework**, enabling an organization to work as a **single unit with unified objectives**.

## Core Management System

- The management system implemented to plan, implement, monitor and continually improve **all business processes** under responsibility of EGI Foundation.

## General Service Management

- The management system implemented to deliver **all services** covered by the service catalogue of EGI Foundation.

## IT Service Management

- The management system implemented to deliver **all IT services** covered by the service catalogue of EGI Foundation.

## Risk management

- The systematic and regular identification, assessment and treatment of risks of any type

## Finance & administration

- Effective management of finance, business and office administration

## Human resources

- Ensure effective management of human resources

## Business development & stakeholders

- Stakeholder management (including Council participants and funding agencies/policy makers), review the EGI Strategy and its implementation

## Information security management

- Manage information security to ensure confidentiality, integrity and accessibility of relevant information assets

## Continual improvement

- Identify, prioritize, plan, implement and review all improvements



## Service portfolio management

- Manage the service portfolio; alignment of new or changed services with organisation strategy

## Service level management

- Maintain a service catalogue; define, agree and monitor relevant agreements (SLA, OLA, UA)

## Service reporting management

- Specify all service reports and ensure its production according to specifications in a timely manner to support decision-making

## Customer relationship management

- Identify, record and analyse customer opportunities; manage service orders and maintain a good relationship with customers

## Supplier & federated members relationship management

- Establish and maintain a healthy relations with suppliers supporting the services; ensure the required capacity and monitor performance

## Budgeting & accounting management

- Ensure effective management of budgeting, accounting for services

## Capacity management

- Ensures sufficient capacities to meet agreed service levels and monitor performance requirements for services

## Service availability & continuity management

- Ensure sufficient service availability to meet agreed requirements and adequate service continuity in case of exceptional situations

## Incident & service request management

- Restore normal / agreed service operation in case of an incident; respond to user service requests

## Problem management

- Investigate the root causes of (recurring) incidents in order to avoid future recurrence of incidents

## Configuration management

- Provide and maintain an information about logical model of service components and its configuration

## Change management

- Ensure changes are planned, approved, implemented and reviewed in a controlled manner

## Release & deployment management

- Manage releases, so that changes can be tested and deployed to the live environment

- Internal audits
- External audits
- Management reviews

ZERTIFIKAT ♦ CERTIFICATE ♦ CERTIFICADO ♦ CERTIFICAT

## ISO 9001



Management Service

# CERTIFICATE

The Certification Body  
of TÜV SÜD Management Service GmbH  
certifies that



**EGI Foundation / EGI.eu**  
Science Park 140  
1098 XG Amsterdam  
Netherlands

has established and applies  
a Quality Management System for

**A management system to deliver all  
services covered by the service catalogue.**

An audit was performed, Report No. **707067543**.  
Proof has been furnished that the requirements  
according to

**ISO 9001:2015**

are fulfilled.

The certificate is valid from **2018-02-19** until **2020-03-06**.

Certificate Registration No.: **12 100 53643 TMS**.

*M. Wege*  
Product Compliance Management  
Munich, 2018-02-19



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IMS/18/176

ZERTIFIKAT ♦ CERTIFICATE ♦ CERTIFICADO ♦ CERTIFICAT

## ISO 20000



Management Service

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Science Park 140  
1098 XG Amsterdam  
Netherlands

has established and applies  
a Management System for IT-Services.

**A management system to deliver all  
IT services covered by the service catalogue.**

An audit was performed, Report No. **707067543**.  
Proof has been furnished that the requirements  
according to

**ISO/IEC 20000-1:2011**

are fulfilled.

The certificate is valid from **2018-02-19** until **2020-03-06**.

Certificate Registration No.: **12 410 53644 TMS**.

*M. Wege*  
Product Compliance Management  
Munich, 2018-02-19



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IMS/18/176

- It puts in place standard processes, procedures and agreements for managing the infrastructure efficiently and effectively.
- It increased clarity on expectations between EGI partners and also customers.
- It made decision-making clearer between organisations and individual teams.
- Knowledge and experience that can be reused by other e-infrastructures through consultancy, audits, workshops and trainings.

- **FitSM Training**
  - Training according to the FitSM qualification scheme
  - Topic-specific or tailored training (e.g. service specification)
- **FitSM Consultancy** – support in implementing IT service management based on FitSM
  - Consultant hours
  - Tailored Workshops
  - Creation and provision of specific documentation templates / samples / guides
- **FitSM Audit & Review**
  - Capability / maturity assessments
  - Internal audit
  - Certification audit (planned)



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Thank you  
for your attention.

*Questions?*



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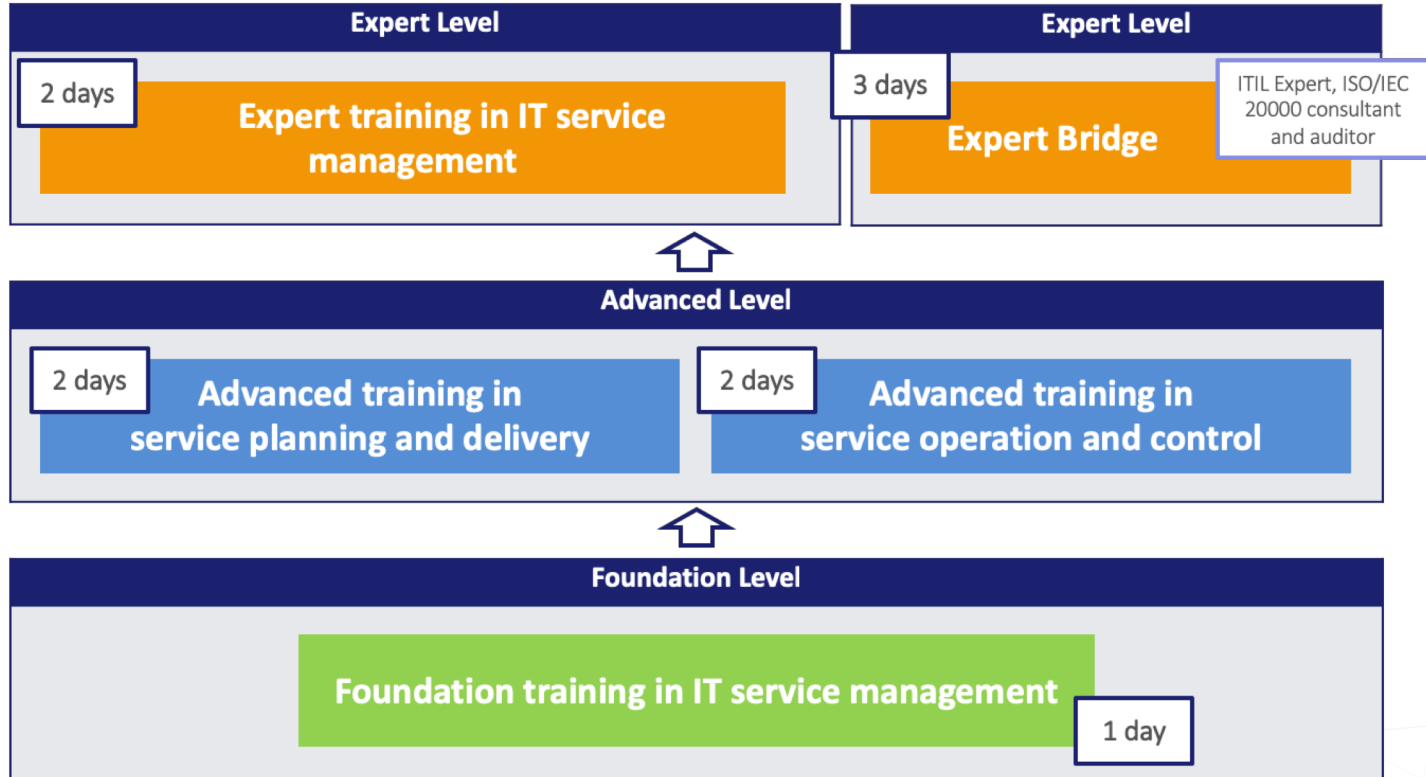
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## Back-up slides



# FitSM Training and Certification

*Overview and EGI Offers*



- IT Service Management
  - Introduction, Terms & Concepts
- The FitSM Standards Family
  - Background and overview of FitSM standard
  - General aspects and requirements
  - Process model and requirements
- Benefits, Risks & Challenges of Implementing IT Service Management
- Related Standards & Frameworks
- Exam
  - 20 multiple choice questions; 65% to pass
- Target Audience
  - Everyone involved in the delivery of IT services

## *Topics and who should attend*

- Repeat the most important Foundation knowledge
- Dive deeper into
  - General aspects of “implementing” ITSM
    - Top management; Documentation; Scope; Continual Improvement
  - 8 processes related to service planning and delivery
    - Service Portfolio; Service Level; Service Reporting; Service Availability and Continuity; Capacity; Information Security, Customer and Supplier Relationship Management
    - Process set-up and running; roles and responsibilities; interfaces; critical success factors and KPIs
- Exam
  - 30 multiple choice questions; 70% to pass
- Target Audience
  - SMS Manager
  - At least process owners and managers of the processes covered

## *Topics and who should attend*

- Repeat the most important Foundation knowledge
- Dive deeper into
  - General aspects of “implementing” ITSM
    - Top management; Documentation; Scope; Continual Improvement
  - 6 processes related to service operation and control
    - Incident and Service Request; Problem; Configuration; Change; Release and Deployment Mgmt.; Continual Service Improvement
    - Process set-up and running; roles and responsibilities; interfaces; critical success factors and KPIs
- Exam
  - 30 multiple choice questions; 70% to pass
- Target Audience
  - SMS Manager
  - At least process owners and managers of the processes covered

## *Topics and who should attend*

- ITSM-related frameworks and standards
  - ITIL, COBIT, ISO 9000, ISO2000, ISO 27000
- Understanding the organizational context of delivering and managing services
- Leadership and governance
  - Effective policies and communication; Governance; Managing Risk
- Planning and implementing ITSM
  - Plans; Roles; Training and awareness; Organizational Change
- Monitoring, reviewing and improving ITSM
  - Conformity, effectiveness, and efficiency; KPIs; Auditing; Capability and maturity assessments; Management reviews
- Exam
  - 30 questions (6 T/F each); 75% to pass (135 pts out of 180)
- Target Audience
  - SMS Manager
  - Any other internal contacts serving as go-to internal contact points regarding implementation

## EGI FitSM In-House Training Prices

[1] Training module	Duration	[2] Max. participants	[3] Regular training base price per course	Discounted training base price (EGI participants)	[4] Certification & Examination fees per participant
FitSM Foundation	1 day	15	1,600€	1,360€	80€
FitSM Advanced (SPD or SOC)	2 days	15	3,200€	2,720€	160€
FitSM Expert	2 days	15	4,000€	3,400€	240€
FitSM Expert Bridge*	2 days	15	5,000€	4,250€	400€

*Discounts for multiple courses available*

# EGI FitSM Service Packages

*Workshops, Assessments and Consultancy*



## Example Service Packages

*Workshops, Assessments and Consultancy*

EP1: ITSM Kick-off  
(see slide 14)

EP2: ITSM Assessment  
(see slide 15)

Ongoing consultancy /  
support, focused  
workshops, additional  
training, audits, etc.

- Target group:
  - Organizations that need to develop and / or manage services during and after the project lifetime
- Content:
  - Preparatory remote meeting to understand the organizational context
  - 1 day certified Foundation training according to FitSM for up to 15 people (1 trainer)
  - 1 day kick-off workshop with key players focusing on defining the service portfolio and setting up the service management plan (2 experts)
  - 1 day follow-up report preparation and presentation (1 expert)
- Effort: 4 working days
- Cost: ~€6.500 (plus travel / expenses)

**15% discount for EGI participants!**

# ITSM Maturity Assessment / Internal Audits

## *Example Package 2*

- Target group:
  - Organizations requiring a detailed understanding of their current / existing ITSM capabilities to allow plans for improvement
- Content:
  - Preparatory web call and planning
  - Between 1.5 and 3 days on-site assessment / internal audit
  - Provision of a detailed assessment / audit report
  - Follow-up remote meeting to identify and prioritize improvements
- Effort: 1 auditor, total of 3.5 to 5.5 working days
- Cost: ~€5.500 - €8.500 (plus travel / expenses)

***15% discount for EGI participants!***

- Indicative daily rates range between €900 - €1.600 (plus travel / expenses), depending on
  - Duration / volume
  - Level of expertise required
- Activities comprise
  - Onsite support (F2F meetings)
  - Offsite support (email, skype, phone meetings)
  - Creation and provision of templates / samples / guides
  - Documentation review
  - ...

***15% discount for EGI participants!***

# EGI Policies and Procedures

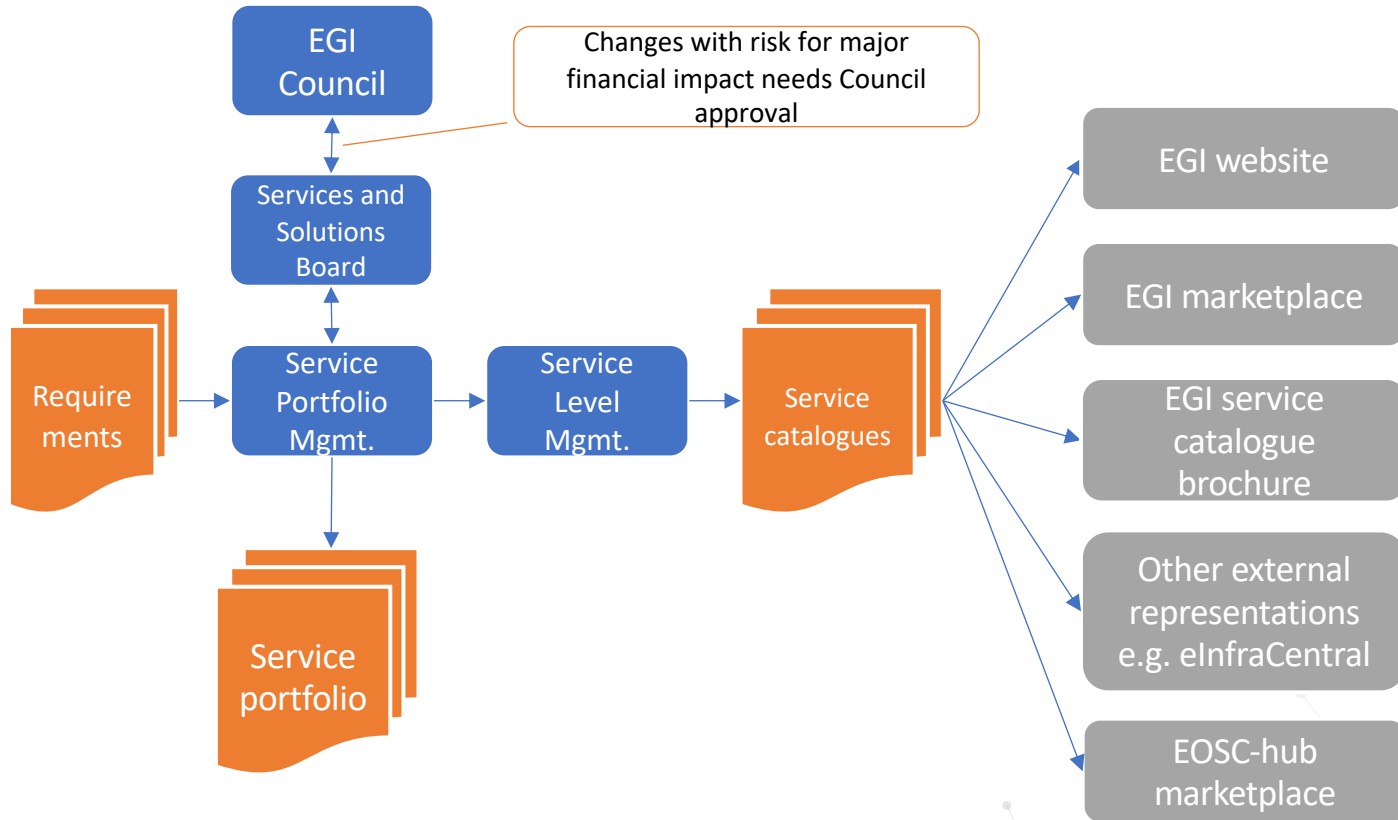
[https://wiki.egi.eu/wiki/Policies\\_and\\_Procedures](https://wiki.egi.eu/wiki/Policies_and_Procedures)

Policy group	Title	Applies to	Relevant agreements <sup>[1]</sup>
SPG	<a href="#">EGI Security Policy</a>	Infrastructure / Users	RC OLA, RP OLA, VO OLA, VO SLA, UA
SPG	<a href="#">Acceptable Use Policy and Conditions of Use</a>	Users	VO SLA
SPG	<a href="#">Service Operations Security Policy</a>	Infrastructure / Users	RC OLA, RP OLA, VO OLA, UA
SPG	<a href="#">VO Operations Policy</a>	Users	VO SLA
SPG	<a href="#">Virtual Organisation Registration Security Policy</a>	Infrastructure / Users	VO SLA
SPG	<a href="#">Virtual Organisation Membership Management Policy</a>	Users	VO SLA
SPG	<a href="#">Portal Policy</a>	Users	VO SLA
SPG	<a href="#">Traceability and Logging Policy</a>	Infrastructure / Technology Providers / Users	RC OLA, VO OLA, VO SLA, UA
SPG	<a href="#">Security Incident Response Policy</a>	Infrastructure / Users	RC OLA, RP OLA, VO OLA, VO SLA, UA
SPG	<a href="#">Policy on e-Infrastructure Multi-User Pilot Jobs</a>	Users	VO SLA
SPG	<a href="#">Policy on the Processing of Personal Data</a>	Infrastructure / Users	RC OLA, RP OLA, VO OLA
SPG	<a href="#">Grid Policy on the Handling of User-Level Job Accounting Data</a>	Infrastructure / Users	RC OLA, RP OLA
SPG	<a href="#">Security Policy Glossary of Terms</a>	Infrastructure / Users	
SPG	<a href="#">Acceptable Authentication Assurance</a>	Infrastructure	RC OLA, RP OLA, VO OLA, VO SLA
SPG	<a href="#">Security Policy for the Endorsement and Operation of Virtual Machine Images</a>	Infrastructure / Users	VO SLA

[https://wiki.egi.eu/wiki/Policies\\_and\\_Procedures](https://wiki.egi.eu/wiki/Policies_and_Procedures)

Policy group ▾	Title ▾	Applies to ▾
SVG	<a href="#">EGI Software Vulnerability Issue Handling Procedure</a> 🔒	Infrastructure / Technology Providers / Users
CSIRT	<a href="#">Security Incident Handling procedure</a> 🔒	Infrastructure
CSIRT	<a href="#">Critical Vulnerability Operational Procedure</a> 🔒	Infrastructure
OMB	<a href="#">COD escalation procedure</a> 🔒	Infrastructure
OMB	<a href="#">Operations Centre creation</a> 🔒	Infrastructure
OMB	<a href="#">Operations Centre decommissioning process coordination</a> 🔒	Infrastructure
OMB	<a href="#">Follow up of availability and reliability statistics - Process for quality verification</a> 🔒	Infrastructure
OMB	<a href="#">Validation of a ROC/NGI Nagios</a> 🔒	Infrastructure
OMB	<a href="#">Setting a Nagios test status to Operations</a> 🔒	Infrastructure
OMB	<a href="#">Management of the EGI OPS Availability and Reliability Profile</a> 🔒	Infrastructure
OMB	<a href="#">Adding new probes to SAM</a> 🔒	Infrastructure
OMB	<a href="#">Resource Centre Registration and Certification Procedure</a> 🔒	Infrastructure
OMB	<a href="#">Decommissioning of Service Type Procedure</a> 🔒	Infrastructure
OMB	<a href="#">Procedure for the recomputation of SAM results and availability/reliability</a> 🔒	Infrastructure
OMB	<a href="#">Resource Centre Decommissioning Procedure</a> 🔒	Infrastructure
OMB	<a href="#">Production Service Decommissioning Procedure</a> 🔒	Infrastructure
OMB	<a href="#">VO deregistration procedure</a> 🔒	Infrastructure / Users
OMB	<a href="#">VO registration procedure</a> 🔒	Infrastructure / Users
OMB	<a href="#">Procedure for renaming a Resource Center</a> 🔒	Infrastructure / Users
OMB	<a href="#">Procedure for decommissioning of unsupported software</a> 🔒	Infrastructure / Technology Providers / Users
UCB	<a href="#">Virtual Research Community accreditation</a> 🔒	Users
TCB	<a href="#">TCB Requirements management process</a> 🔒	Infrastructure / Technology Providers

# SPM - Process to manage & approve major changes



*Simplified view*