

Innovation processes and support as part of customer service

EU Interreg project: Baltic Sea Underground Innovation Network (BSUIN)

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Objectives

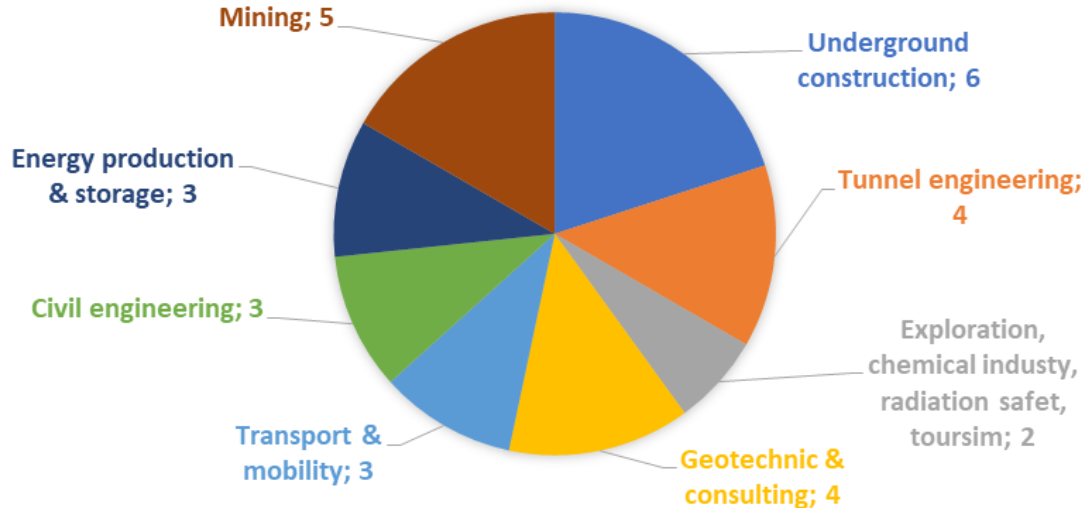
- Information on the industrial partners and research collaboration
- Industrial partners previous usage of UL
- Identification of industrial partners requirements
- Comparison with implemented services by UL
- Guidelines for implementation of new site-specific services in UL
- Guidelines to enhance the innovation processes in general
- Best practice case studies

Meeting with associated industrial partners to discuss their answers to the questionnaires – here with K+S (Germany)



Information on industrial partners and their research collaboration

PARTNERS DISTRIBUTION BY INDUSTRY SECTOR



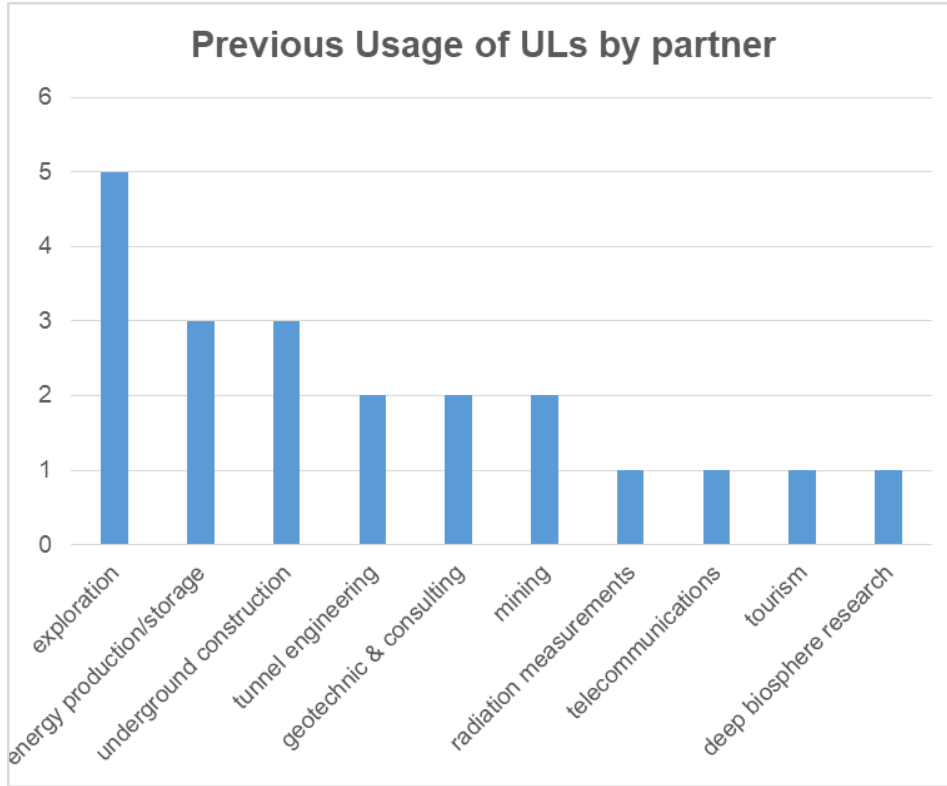
14 partners asked with

8 - large-size (> 250 employees)

2 - mid-size (50 -250 employees)

4 - small-size (< 50 employees)

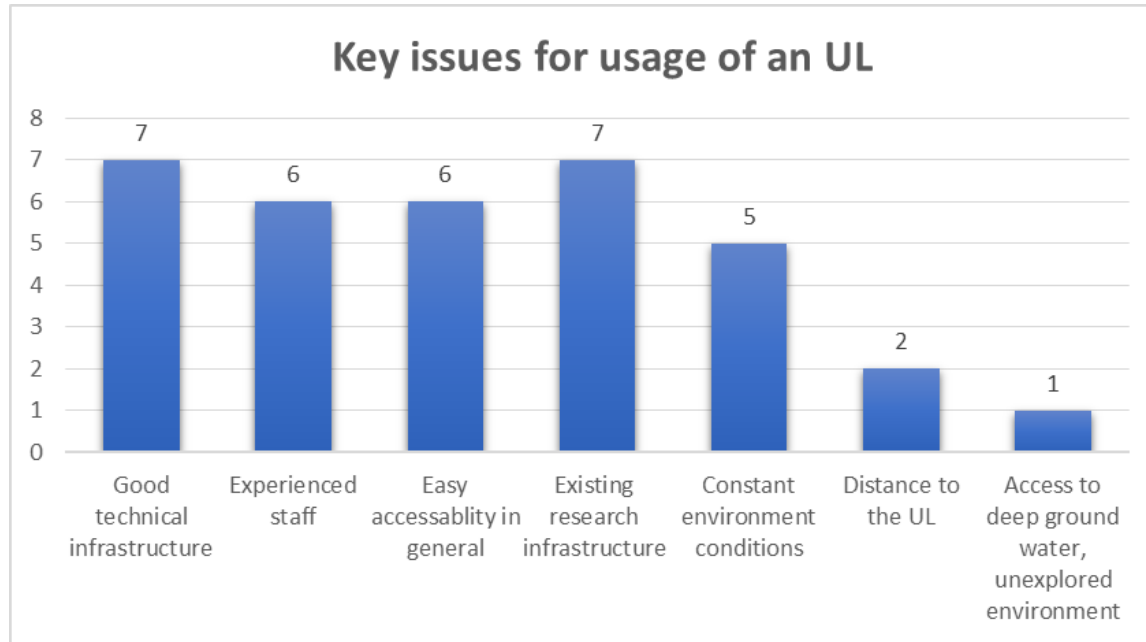
Industrial partners previous usage of UL



Major fields are:

1. exploration,
2. energy production and storage, underground construction,
3. tunnel engineering, geotechnology & consulting and mining

Identification of industrial partners requirements



Underground Labs provide unique underground conditions and infrastructure

Innovation platform concept

Common aspects of UL

Site specific services to enhance innovation process

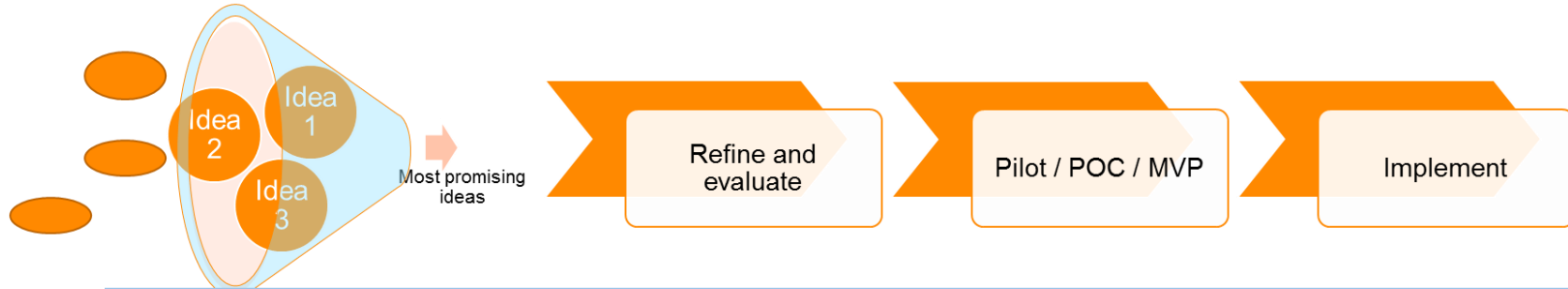
Basic customer requirements UL needs to meet	Competencies and resources UL may provide	Valuable, additional services UL may provide	Competitive advantage bringing benefits to UL	Role and profile UL may take (strategic decision)
High speed internet access	Technical support	IPR management	Annual "Customer Visiting Day"	Innovation Hub
Electricity, water supply	Scientific support	Funding services	Common or customer specific Exhibitions	Project Initiator
Boreholes (drilling holes)	Communication support, PR advisor	Project management and coordination		Project Partner
Vehicles for transportation	Legal advisor	Innovation management		Subcontractor
Undisturbed (tunnel) space	Economic advisor	Facilitation of workshops		Facility Provider
Equipment storage	First contact person(s) (e.g. Account manager)	Managing the practicalities of courses		
Meeting office	Experienced staff	UL related info material		
Easy accessibility		Qualified visiting services, e.g. Showroom		
Data security		Standardized contract template incl. Price list, schedule / time mgmt		

Implemented support services by BSUIN ULs

UL	Technical support	Legal support	Funding support	Networking support	Guiding	Other
Callio		Yes	Yes	Yes	Yes	
Äspö	Yes	Yes		Yes	Yes	
Freiberg	Yes	Yes		Yes	Yes	
Khlopin	Yes		Yes			
Ruskeala	Yes	Yes		Yes	Yes	

Innovation management process

Screen, generate and collect ideas



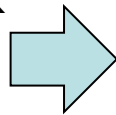
UL key actions and activities in IM process phases

Role and Profile of UL	Screen, generate and collect ideas	Refine and Evaluate	Pilot / POC - Proof Of Concept / MVP - Minimum Viable Product	Implement
Innovation Hub	<ul style="list-style-type: none"> - Dedicated IM Resources. - Systematic IM processes, methods and tools. - Using networks and ecosystems to actively and systematically promote UL to existing and potential customers. - Organize ideation events. 	<ul style="list-style-type: none"> - Dedicated IM Resources. - Systematic IM processes, methods and tools. 	<ul style="list-style-type: none"> - Provide contact network to find needed competencies. - Support building R&D consortiums. 	<ul style="list-style-type: none"> - Provide contact network to find needed competencies and build R&D consortiums. - Organize events supporting dissemination and exploitation, e.g. exhibitions, congresses. - Support generating spin-offs.
Project Initiator	<ul style="list-style-type: none"> - Initiate project ideas. - Identify and contact potential partners. 	<ul style="list-style-type: none"> - Active driver. - Make go/no-go decision. 	<ul style="list-style-type: none"> - Active driver. - Make go/no-go decision. 	<ul style="list-style-type: none"> - Build R&D consortium. - Project coordinator.
Project Partner	Contributor (case dependent).	Contributor (case dependent).	Contributor (case dependent).	Contributor (case dependent).
Subcontractor	Contributor (case dependent).	Contributor (case dependent).	Contributor (case dependent).	Contributor (case dependent).
Facility Provider	Provide facilities.	Provide facilities.	Provide facilities.	Provide facilities.

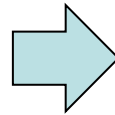
Best practice example



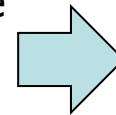
Amberg Technologies ask GFZ to become BSUIN Project Partner (2017)



Feasibility test with existing prototype in GFZ UL in Reiche Zeche (Feb. 2018)



Pilot test with existing prototype in tunnel project in China (July 2019)



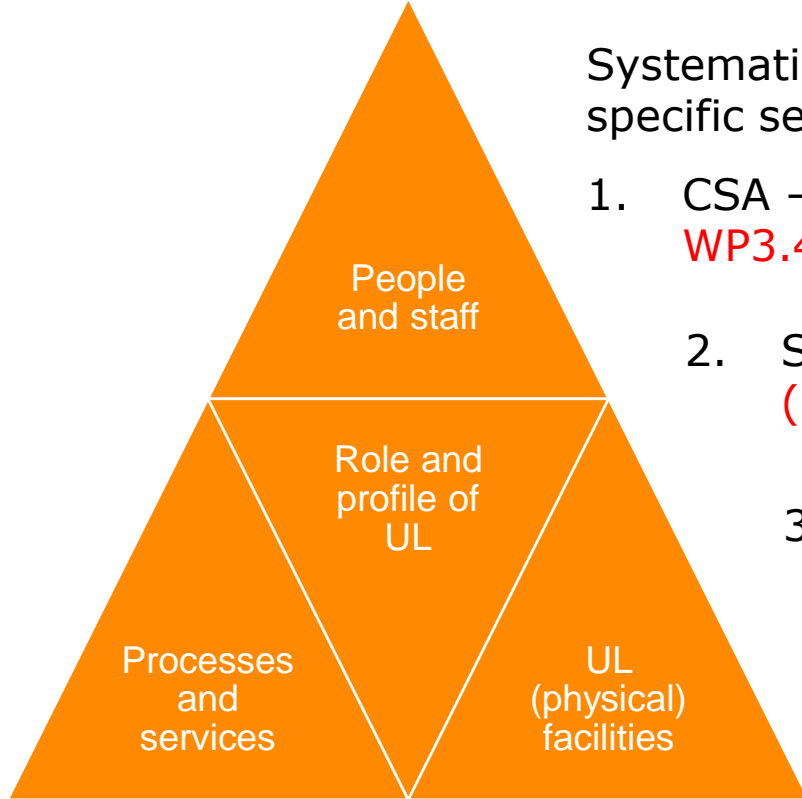
Contract to develop a new seismic impact source (May 2020)

Next Generation Impact Source (NGIS)

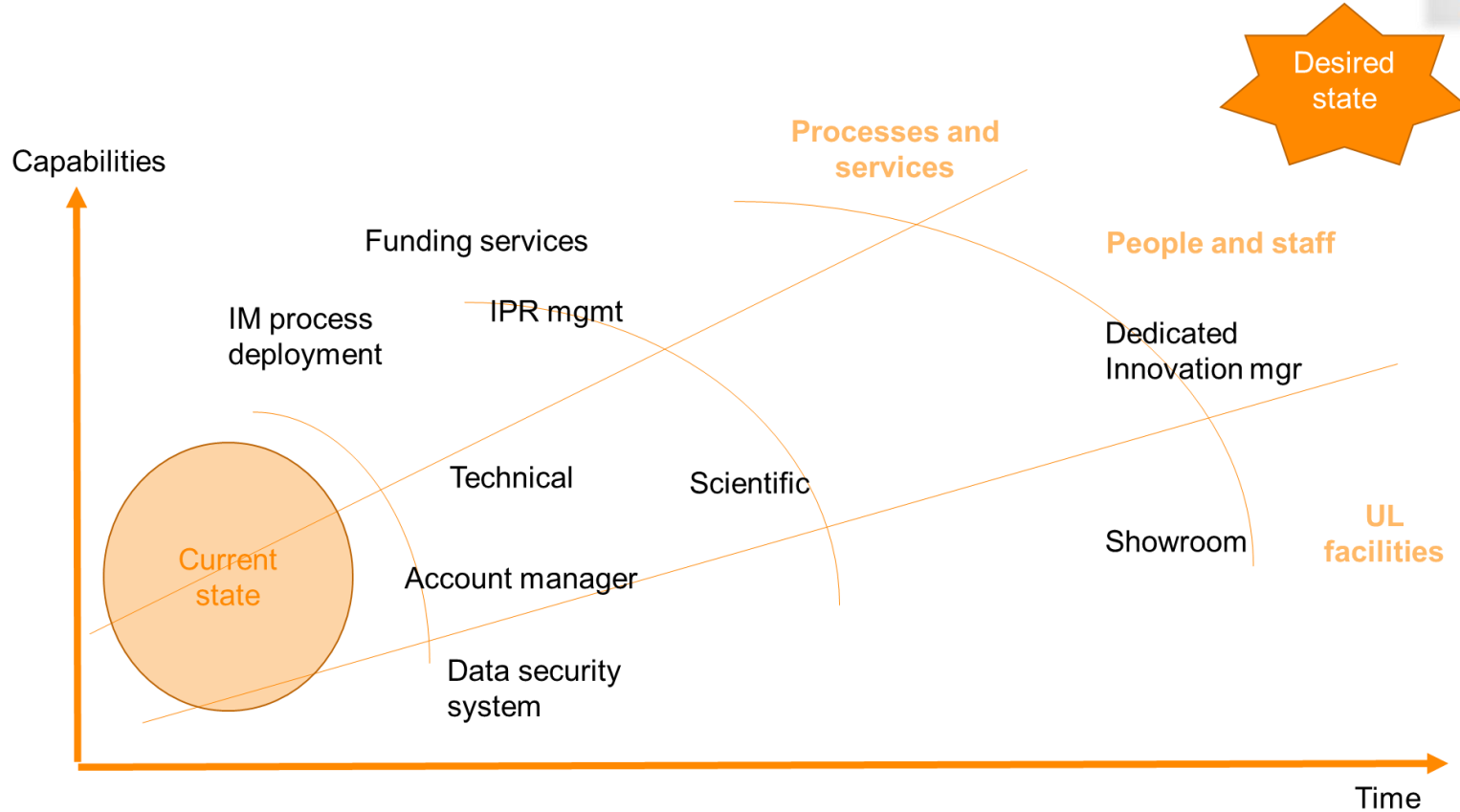
Proposed: Enhancing innovation process

Systematic approach for the UL to design and develop site specific services to enhance innovation process

1. CSA – Current state analysis & SWOT (partly done in WP3.4)
2. Strategic decision of the role and profile of UL (has to be done by ULs)
3. Development roadmap (has to be done by ULs, BSUIN project sketches some general ideas)



UL development roadmap - example



Systematic approach for the UL to design and develop site specific services to enhance innovation process:

- Use guidelines to enhance the innovation processes in general
- Identification of industrial partners requirements
- Adapt guidelines for implementation of new site-specific services in UL
- Learn from best practice case studies

Underground laboratories
Innovation management – A
guideline for innovation
management and support for
innovation processes

**Baltic Sea
Underground
Innovation Network
(BSUIN)**

Many thanks for your attention,
Glückauf!

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For more information please visit our website:

www.bsuin.eu