Being Lean & Seen: meeting the challenges of delivering projects successfully in the 21st century

An EU-funded H2020 MCSA Research & Innovation Staff Exchange (RISE) project (2017-2020)

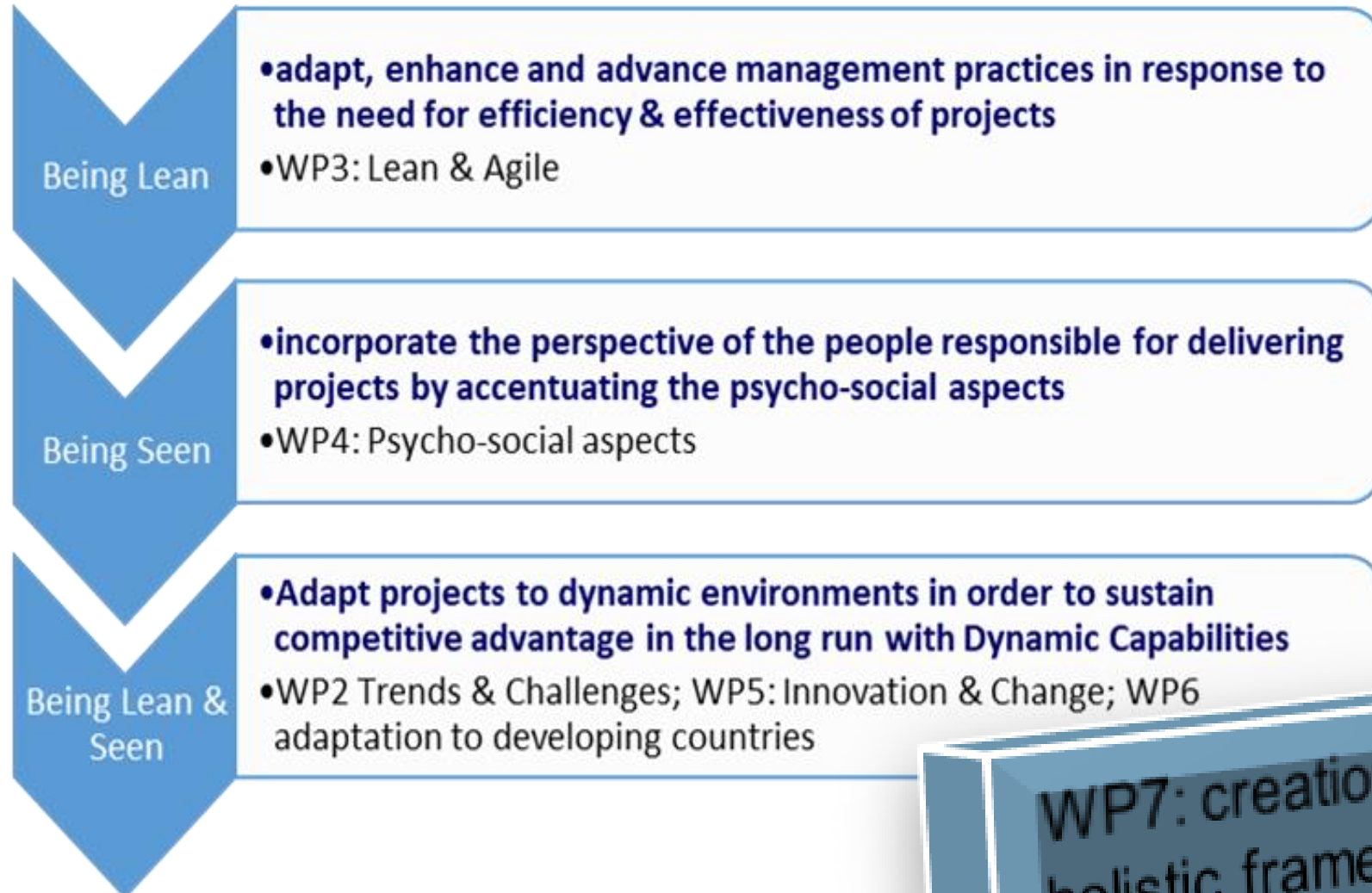# Being Lean & Seen: meeting the challenges of delivering projects successfully in the 21st century An EU-funded H2020 MCSA Research & Innovation Staff Exchange (RISE) project (2017-2020)

BEING LEAN
& SEEN.

Overview & Rationale

Project management (PM) solutions are required to address issues of poor performance and develop the PM capability of people in continuing global recession:

- Project-related expenditure within the EU accounts for around €3.27 trillion in 2015, based on share of GDP
- The worldwide capital project and infrastructure market forecasts suggests the PM market will be worth over €7.0 trillion per year by 2025.
- Less than a quarter (22%) of all projects undertaken wholly meet their planned objectives and 6% of projects are deemed "unsuccessful" costing an annual estimate of €0.2 trillion

Being Lean
- adapt, enhance and advance management practices in response to the need for efficiency & effectiveness of projects
- WP3: Lean & Agile

Being Seen
- incorporate the perspective of the people responsible for delivering projects by accentuating the psycho-social aspects
- WP4: Psycho-social aspects

Being Lean & Seen
- Adapt projects to dynamic environments in order to sustain competitive advantage in the long run with Dynamic Capabilities
- WP2 Trends & Challenges; WP5: Innovation & Change; WP6 adaptation to developing countries

WP7: creation of a holistic framework for PM in the 21st Century

RISE: Being Lean & Seen – who, what, & how?

| Work Package No	Work Package Title	Activity Type	Lead Partner	Number of person-months involved	Start Month	End month
1	Project co-ordination & management	Management & communication	LJMU - LBS	0	Jan 2017	Dec 2020
2	Trends and Challenges for Project Management in the 21st Century	Research	LJMU - LBS	13	Jan 2017	Dec 2020
3	Lean Project Management	Research, training & dissemination	LJMU - LBS	22	Dec 2017	Dec 2019
4	Psycho-Social Aspects in Project Management	Research, training & dissemination	LJMU - Psychology	13	Dec 2017	Dec 2019
5	Management of Innovation and Change Projects	Research, training & dissemination	USTUTT	13	Dec 2017	Dec 2019
6	Adapting Systems to Developing Countries	Research, training & dissemination	MMU	7	Dec 2019	Dec 2020
7	Holistic Framework for Project Management in the 21st Century	Research & dissemination	LJMU- LBS	5	Apr 2020	Dec 2020
8	Ethics Requirements	Management & communication	LJMU-LBS	0	Jan 2017	Dec 2020

Total costs for 73 months of secondments = €328,500

Funding per secondment	
Staff member unit cost	€ 2000
Research Training Networking	€ 1800
Management Cost	€ 700
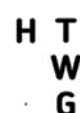
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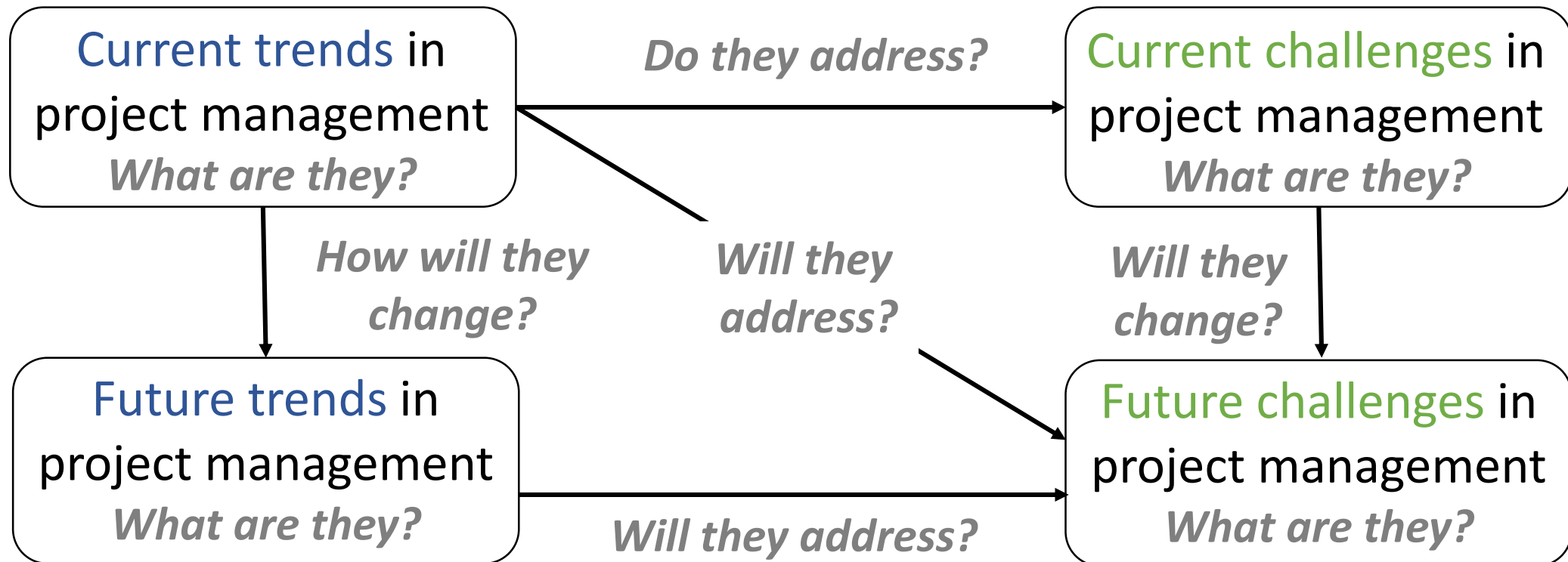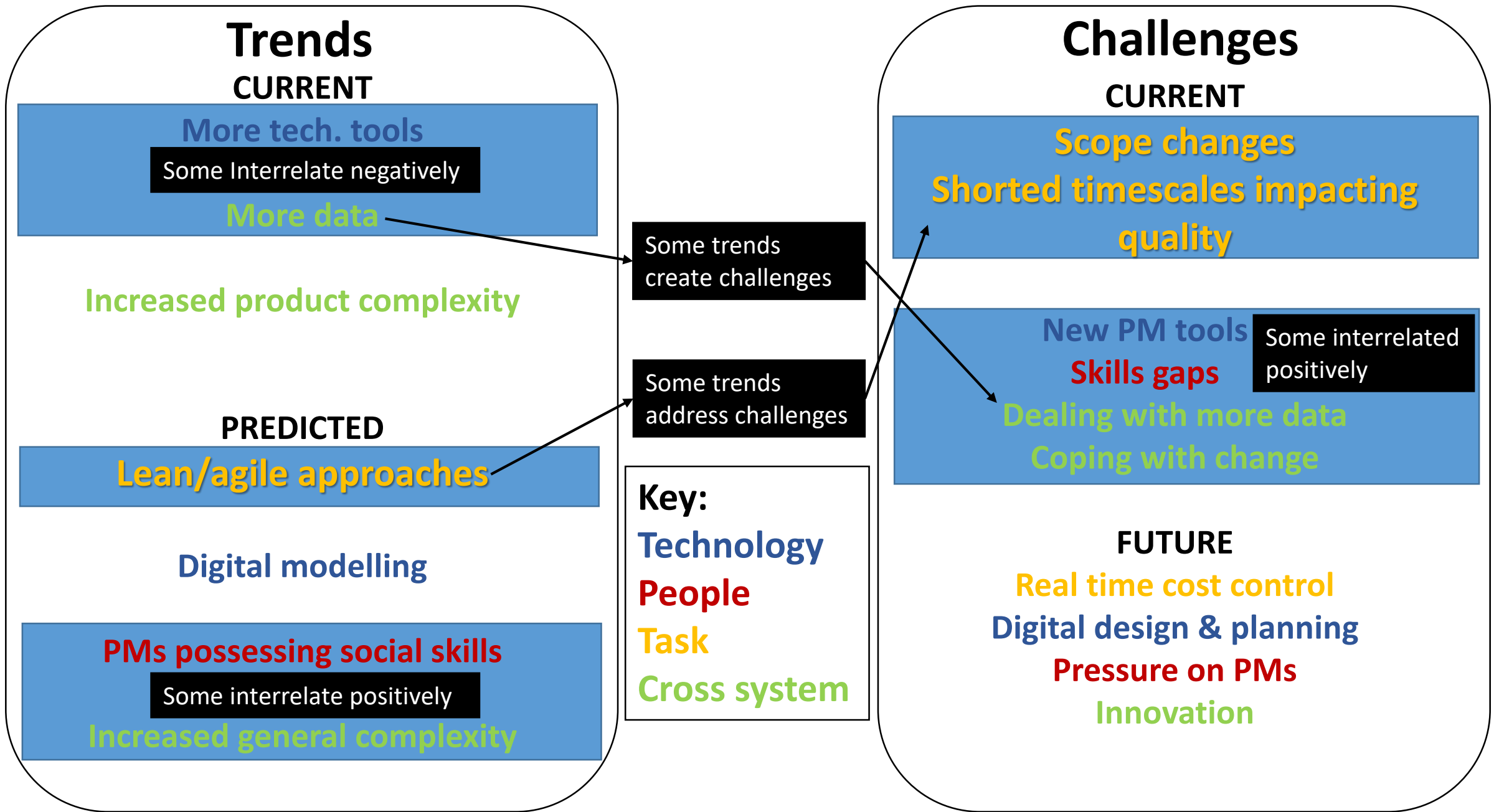
WP2:Trends and Challenges

Aim & Research questions

Aim: To identify the trends and challenges project management is facing in the 21st century

- Trends and Challenges – what's the difference?

Findings so far: Interrelated trends and challenges

Trends

CURRENT

More tech. tools

Some Interrelate negatively

More data

Increased product complexity

PREDICTED

Lean/agile approaches

Digital modelling

PMs possessing social skills

Some interrelate positively

Increased general complexity

Some trends create challenges

Some trends address challenges

Key:
Technology
People
Task
Cross system

Challenges

CURRENT

Scope changes
Shorted timescales impacting quality

New PM tools

Some interrelated positively

Skills gaps

Dealing with more data
Coping with change

FUTURE

Real time cost control
Digital design & planning
Pressure on PMs
Innovation

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WP3: Lean Project Management

WP 3: Lean Project Management

3.1 characteristics of lean PM maturity in high performing organisations

3.2 advancement of lean techniques and optimisation of Agile PM in change context
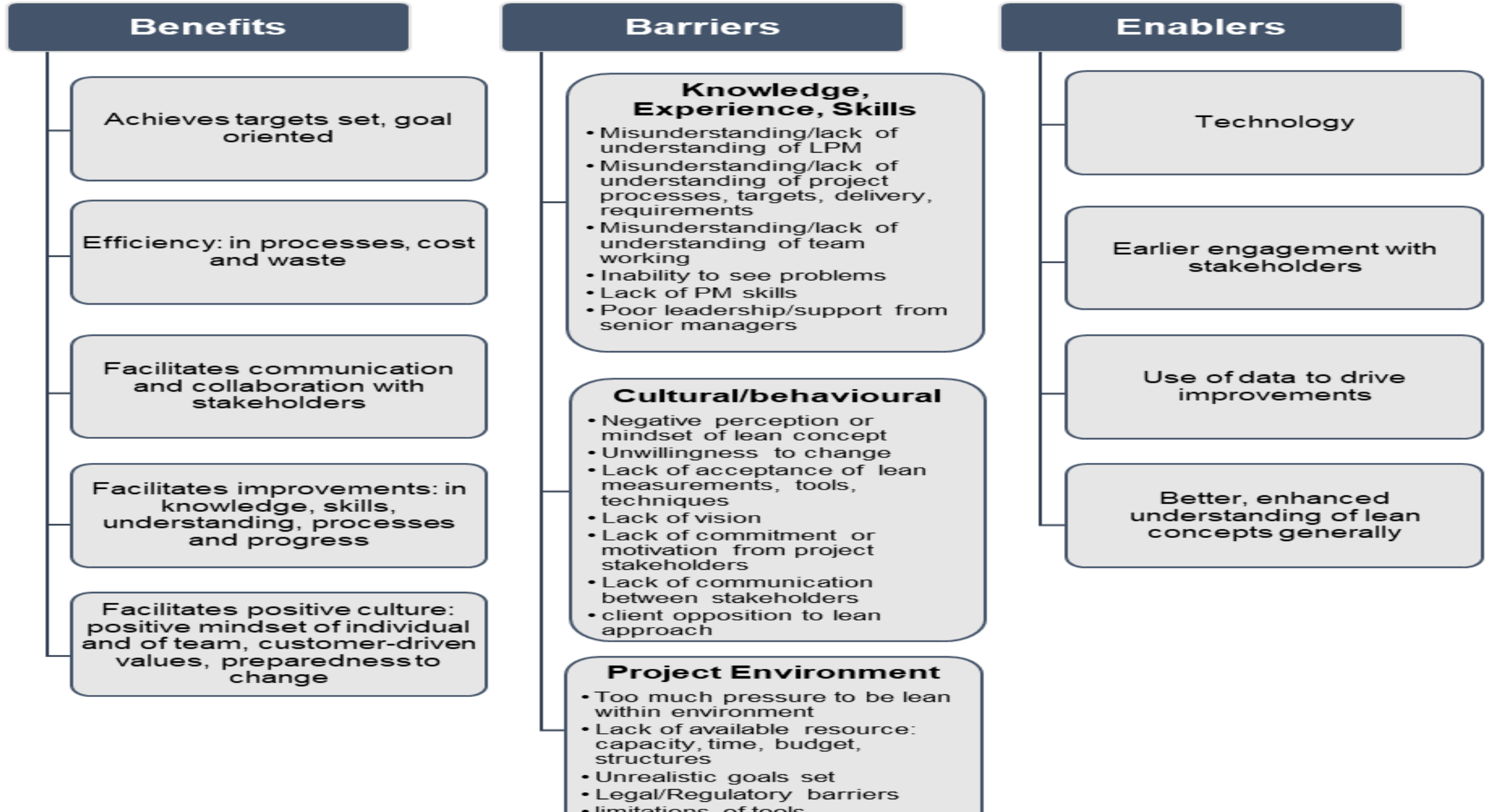
3.3 development of an innovative project delivery method informed by lean project management and agile based approaches

WP3.1 Lean Project Management characteristics

- Use of **semi-structured interviews** (n=58), single project case study and expert focus groups

- Demographics - 13 female/45 male; 27 to 65 yrs; Germany (n=27), UK (n=22) and Switzerland (n=9)

- Construction, Manufacturing, Engineering, IT, Medicine, Petrochemical industry, Nuclear, Utilities, Small Business, Social Enterprise and Public Services

- Of the 58 interviewees, 29 different organisations were represented (10 SME's, 12 large private sector orgs, 6 large public sector orgs, 1 freelancer)

- Qualitative, explorative, inductive, interpretative approach, thematic analysis of the data

Key Preliminary Findings: Implementation of LPM

Benefits

- Achieves targets set, goal oriented

- Efficiency: in processes, cost and waste

- Facilitates communication and collaboration with stakeholders

- Facilitates improvements: in knowledge, skills, understanding, processes and progress

- Facilitates positive culture: positive mindset of individual and of team, customer-driven values, preparedness to change

Barriers

Knowledge, Experience, Skills
- Misunderstanding/lack of understanding of LPM
- Misunderstanding/lack of understanding of project processes, targets, delivery, requirements
- Misunderstanding/lack of understanding of team working
- Inability to see problems
- Lack of PM skills
- Poor leadership/support from senior managers

Cultural/behavioural
- Negative perception or mindset of lean concept
- Unwillingness to change
- Lack of acceptance of lean measurements, tools, techniques
- Lack of vision
- Lack of commitment or motivation from project stakeholders
- Lack of communication between stakeholders
- client opposition to lean approach

Project Environment
- Too much pressure to be lean within environment
- Lack of available resource: capacity, time, budget, structures
- Unrealistic goals set
- Legal/Regulatory barriers
- limitations of tools

Enablers

- Technology

- Earlier engagement with stakeholders

- Use of data to drive improvements

- Better, enhanced understanding of lean concepts generally

WP3.2 Agile projectification

The agile PM approach differs from traditional PM by **stressing an ongoing design process,** a scope that is flexible, locking the features of the design at a later stage, embracing the uncertainties that may arise and more customer interaction.

Agile approach can be described to be an **iterative process** that seeks to avoid early design freeze, an inflexible project scope and very low interaction with the customer.

The traditional methods always followed a logical sequence with deliverables set much in advance. However, this rigid process of development can result in excessive rework, lack in flexibility, customer dissatisfaction, etc.

Methodology: 15 **semi-structured interviews** with PMs described their current practice of managing projects and a **Case study** of International engineering & consulting company. Data analysis: Content analysis

Key Preliminary Findings: Agility

- While 'workable certainties' are seen as important within construction PBOs these are no static elements within project reality, there is **constant change and switching** between creativity and design (exploration) and efficiency (exploitation).

- An integrative perspective that is cognisant of the temporal nature of project teams suggests that the relationship between exploring and exploiting **dynamically morphs and changes over time**.
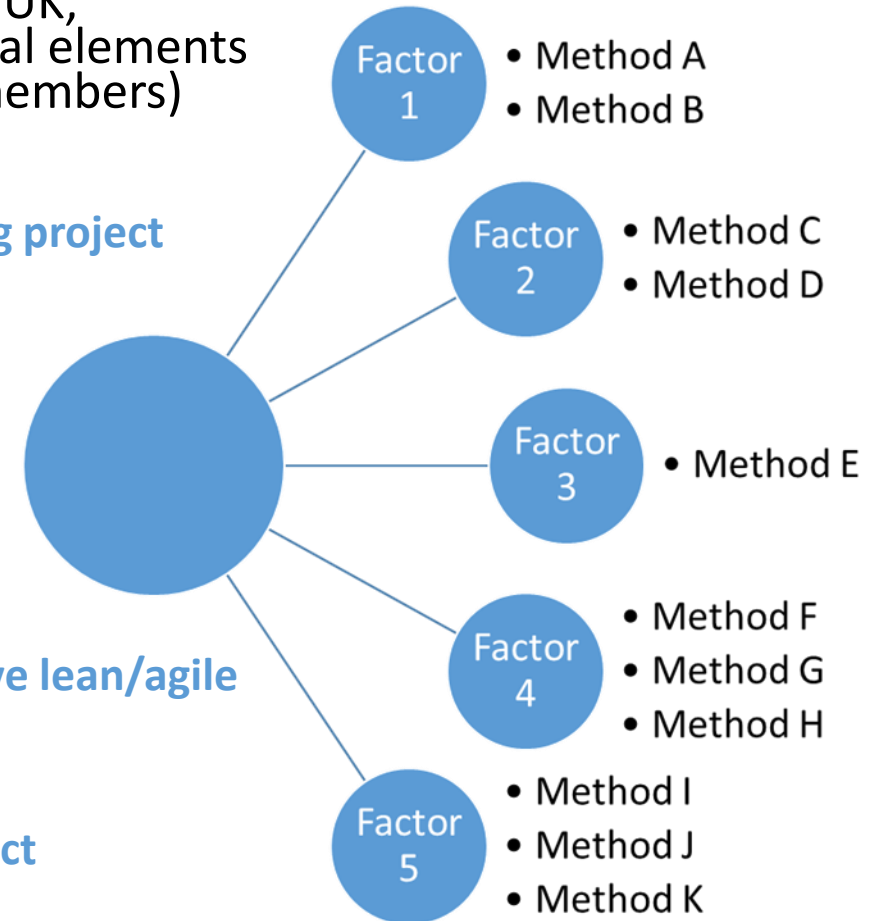
"I guess with agile project management, it's a lot about the people and how to structure… the project, how to structure your organisation and how to react if something happens…

Maybe agile is good in the planning process … creative process where you think about how can I… how should the building look…

WP3.3 Methods & questions

Activities: Undertaking a number of multi-disciplinary focus groups in UK, Germany, Switzerland, Malaysia to explore the drivers and behavioural elements of decision-making in project management (average group size 5-8 members)

- **What and how are the principles of lean and agile identified by practicing project managers?**

- **What is their importance?**

- **How can these approaches be included in decision-making processes?**

- **What kinds of tools, methods, techniques are used to implement effective lean/agile PM?**

- **How does knowledge, experience, skill, culture, behaviour, and the project environment influence decision making for project delivery?**

- **What are the most important factors in selecting a PM approach?**

Factor 1
- Method A
- Method B

Factor 2
- Method C
- Method D

Factor 3
- Method E

Factor 4
- Method F
- Method G
- Method H

Factor 5
- Method I
- Method J
- Method K

Implications for Research & Practice – WP3

- PM practices can help gain insight into managing challenges faced

- Key factors
  - Solid knowledge base
  - Culture of timely and committed stakeholder involvement and collaboration
  - Leadership
  - Continuous leadership

Increased knowledge & Understanding of Lean and its implementation mechanisms

Acceptance of the mechanisms of LPM reflecting the continuous improvement function of lean

Appreciation of the complex dynamics when embedding the unknown as an integral aspect of project design.

Practice in collaboration, commitment, communication and the sharing of effective practice

Supportive culture that includes the skills and mindset of flexibility, agility, open mindedness, team vision

Strong leadership, accountability and support from senior managers

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WP4: Psychosocial aspects of project management

Aims & Methods

Aims

1. To understand the motives of project managers to adopt <u>organisational justice</u> in project management

2. To understand the <u>coping strategies</u> of project managers dealing with difficult stakeholders and/or situations

3. To develop a <u>model</u> to show the impact of <u>psychosocial factors</u> on project management success
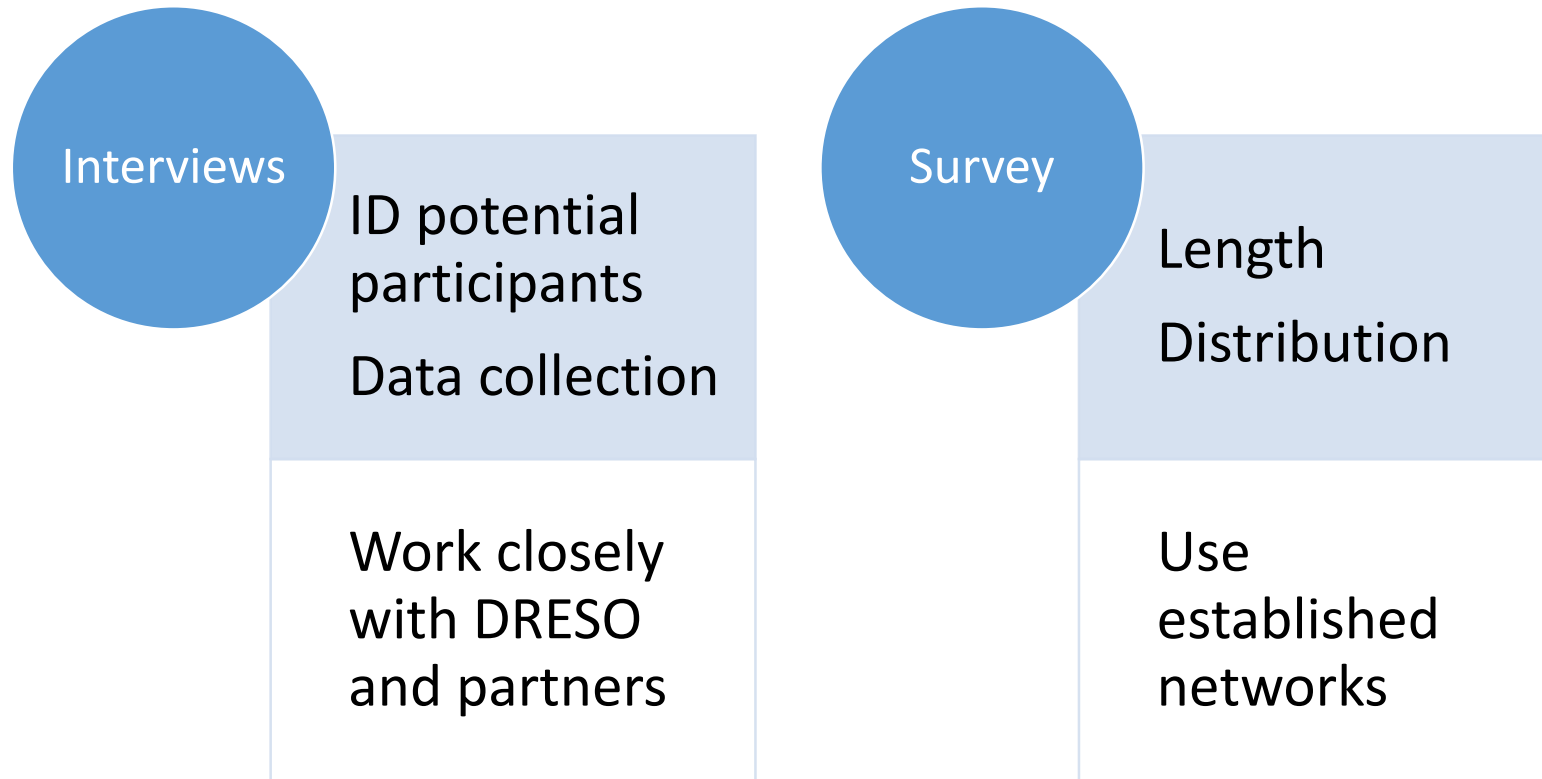
Methods

1. Semi-structured interviews with project managers

2. Observations

3. Survey

Key Preliminary Findings

- Timeline

- Technical skills and processes

- Project specifics and context

- Relational aspects of PM

- Individual differences / characteristics

- Communication

Challenges and solutions

Interviews

ID potential participants

Data collection

Work closely with DRESO and partners

Survey

Length

Distribution

Use established networks

Language, culture, geography

https://ljmupsych.qualtrics.com/jfe/form/SV_0eKbNnRAUMrQyy1

Relevance

Practice

- Integrate training in relational skills training into professional training alongside technical skills

- Based on needs assessment, provide training to project managers in practice
  - Communication, managing relationships in professional settings, conflict management
  - Resilience, coping, emotional intelligence

Research

- Further investigate specific psychosocial predictors of successful project management*

- Inter and intra personal factors

* informed be informed by survey

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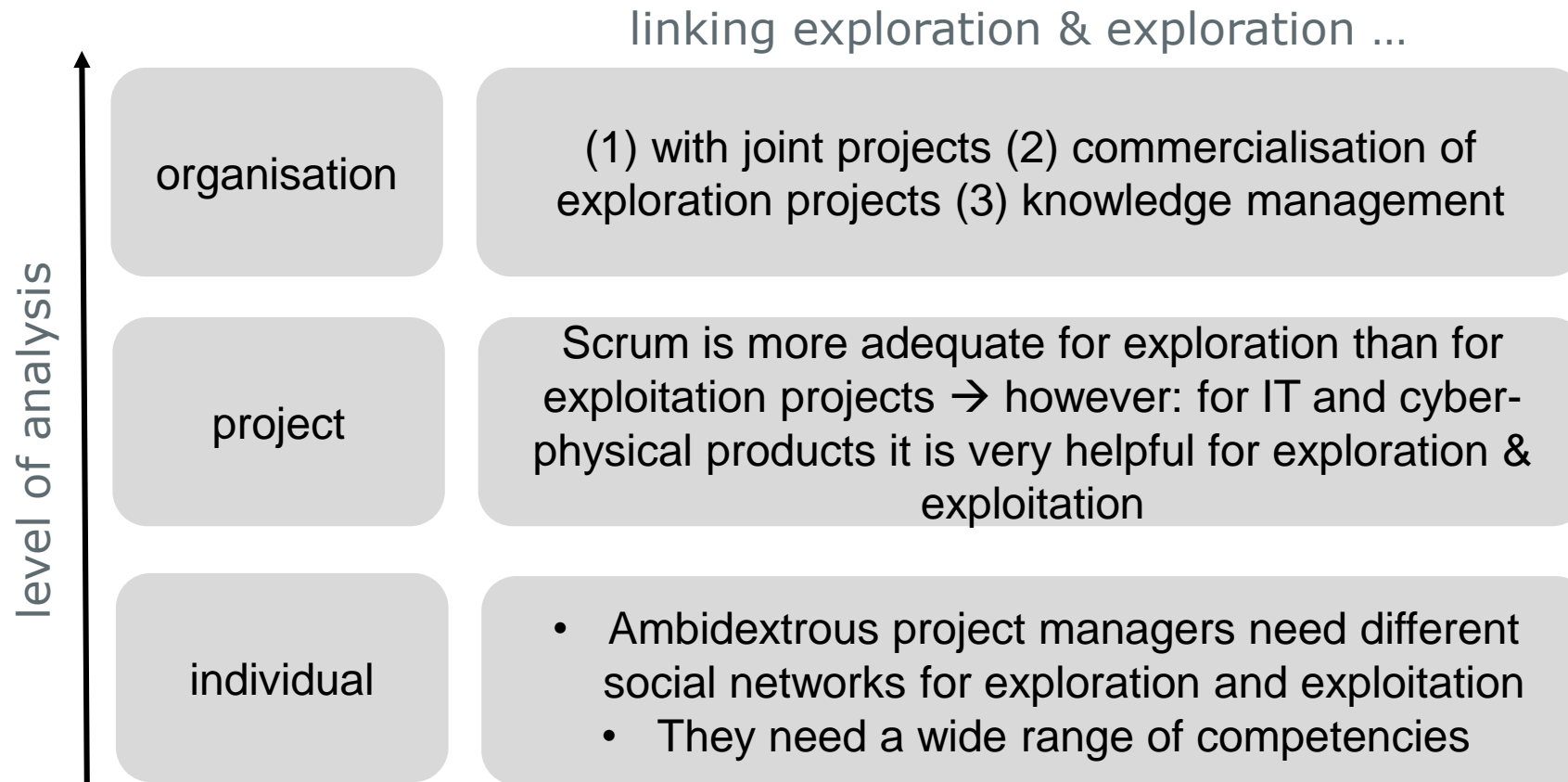# WP5: Innovation projects

Aims & Challenges

- **Challenge**: How can Organisations deal with complexity in an ambidextrous environment?

- Solution possibility:
    - development of project structures
    - Identify solutions at the organisational level, at the project level and at the individual level

- **AIM** of WP 5: Development of a multi-level framework on projects and ambidexterity („microfoundation of ambidexterity")

Key findings
"Facilitating ambidexterity by project management"

linking exploration & exploration ...

level of analysis

organisation	(1) with joint projects (2) commercialisation of exploration projects (3) knowledge management
project	Scrum is more adequate for exploration than for exploitation projects → however: for IT and cyber-physical products it is very helpful for exploration & exploitation
individual	• Ambidextrous project managers need different social networks for exploration and exploitation • They need a wide range of competencies

Specific training needs

Research

- Multi-level consideration of ambidexterity

- Individual ambidexterity

Practice

- Multi-level framework as a consulting concept

- Organisational development and training needs

→ dealing with complexity on following levels: organisation, project, individual

- **Organisation:** How to use project structures to connect exploration and exploitation? → consulting in organisational design

- **Project:** Which project management method is adequate? → consulting in methods, training for project managers

- **Individual:** Which competencies, traits, habits and networks do ambidextrous project managers need? → training for project managers

Being Lean & Seen: next steps January – December 2020

- Final analysis of WP3,4 5 and synthesis of findings

- WP6 Dissemination of findings in the developing world and possible adaptation and analysis of findings relevant for the developing world (Lead: MMU)

- Commencement of **WP7: the final holistic framework taking into account all findings from WP2-6 (July 2020-Dec 2020)**

Questions? Comments? please contact Project Co-ordinator:

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https://www.ljmu.ac.uk/microsites/being-lean-and-seen