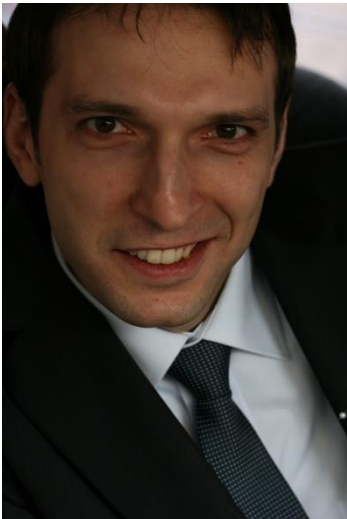


Quality Management System for Innovation Projects

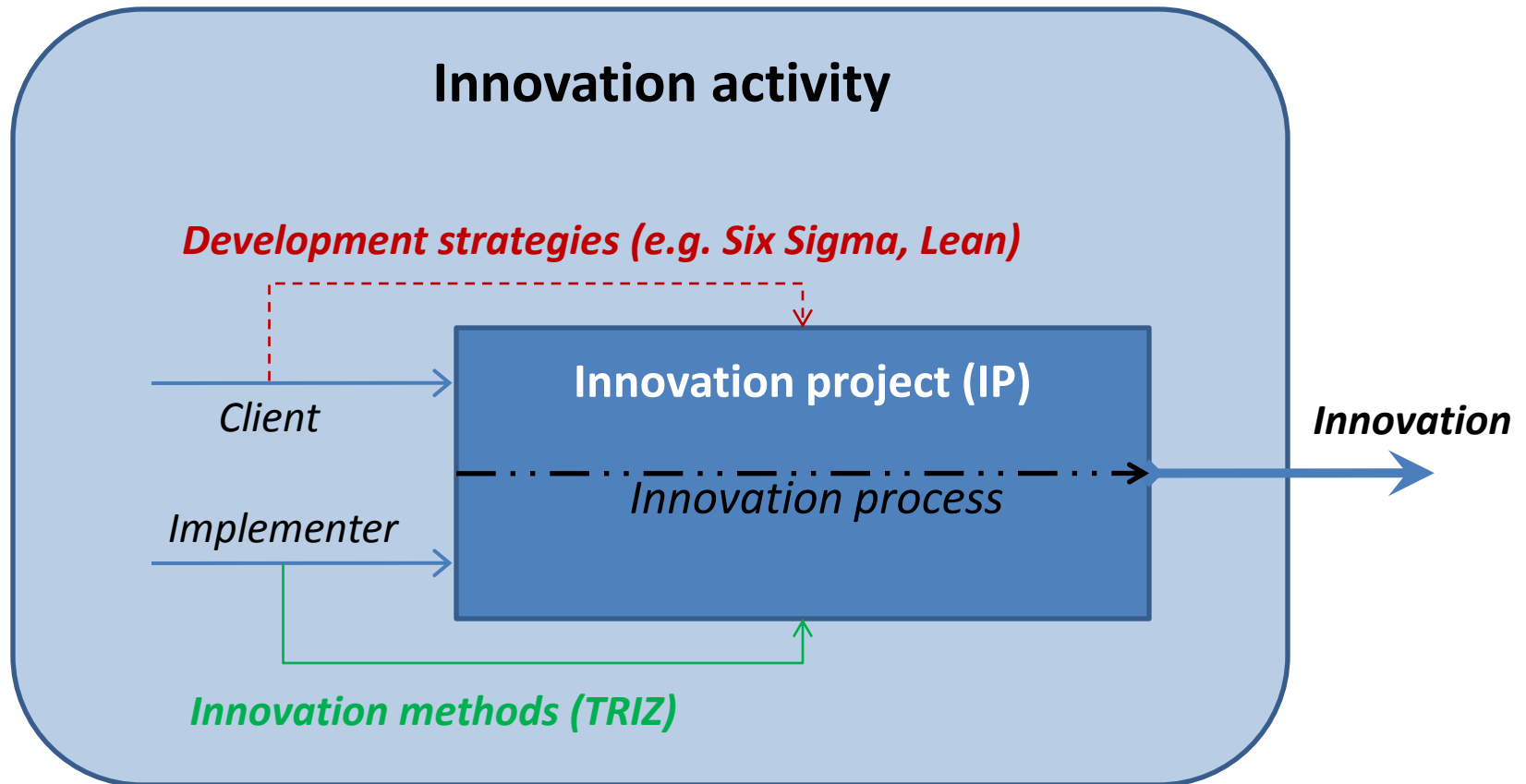


Ahmad-Ramez Kassou

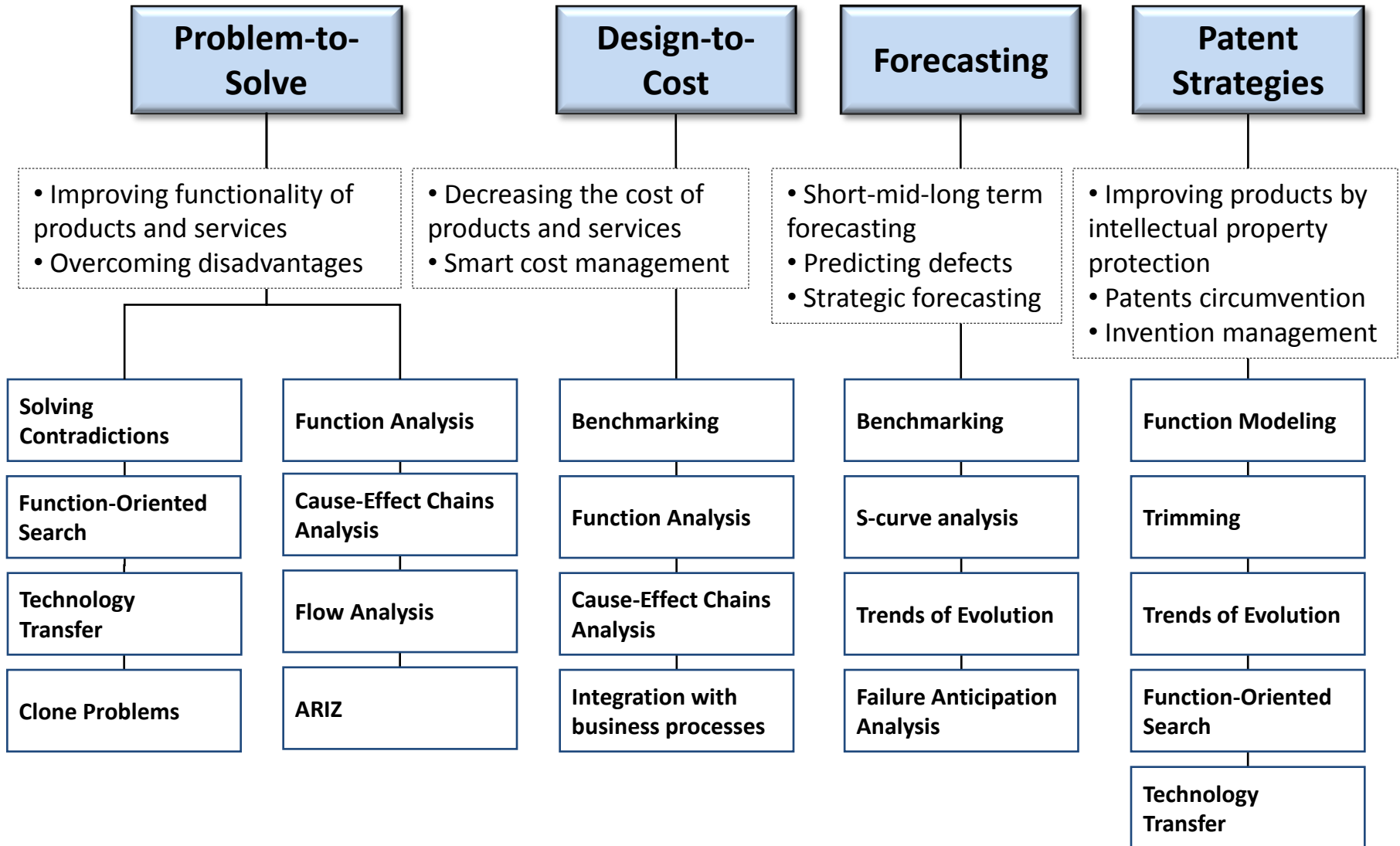
St. Petersburg TRIZ Association
Saint-Petersburg State Polytechnic University

South Korea, Seoul, TRIZCON 2010

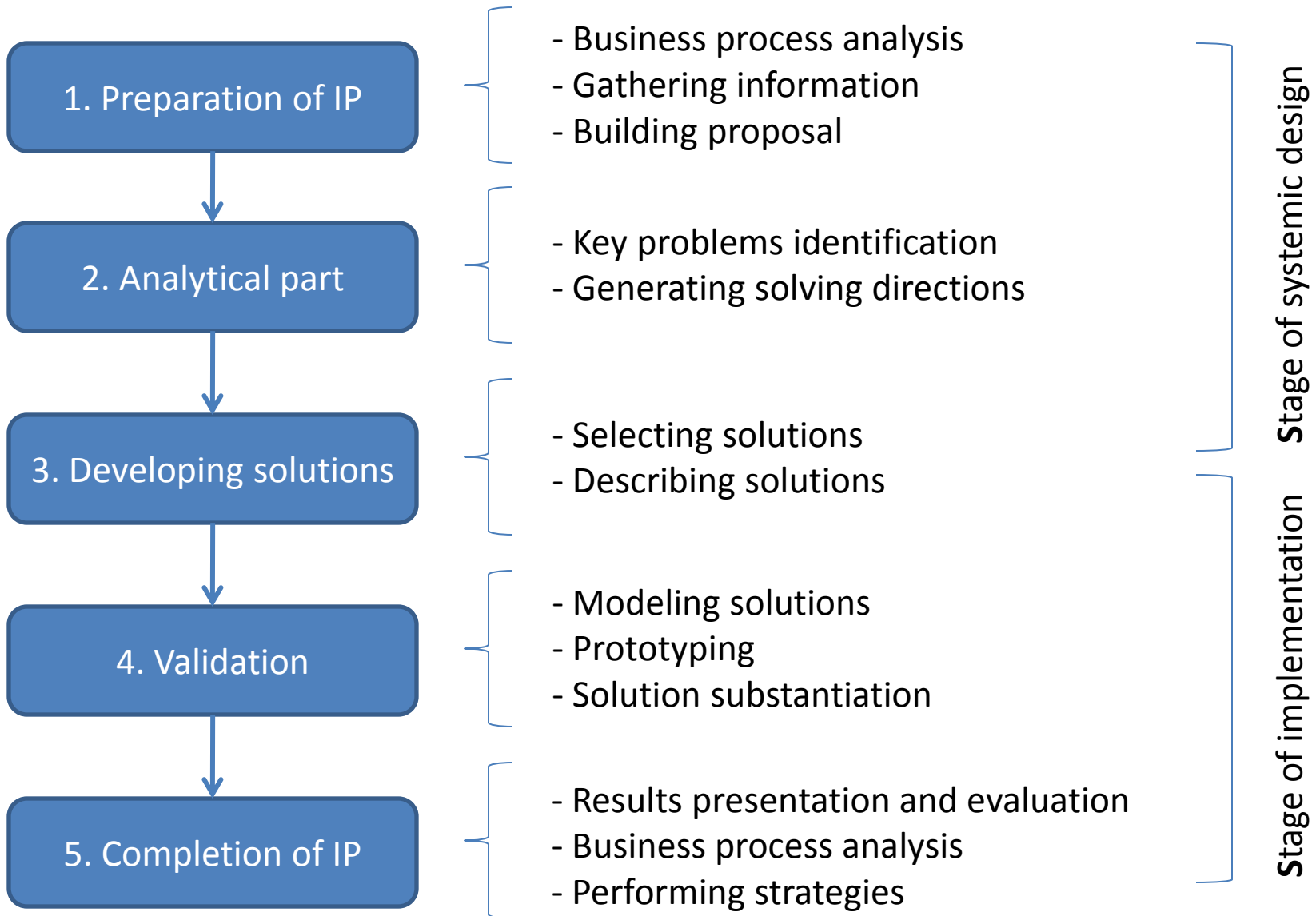
Components of an Innovation Project



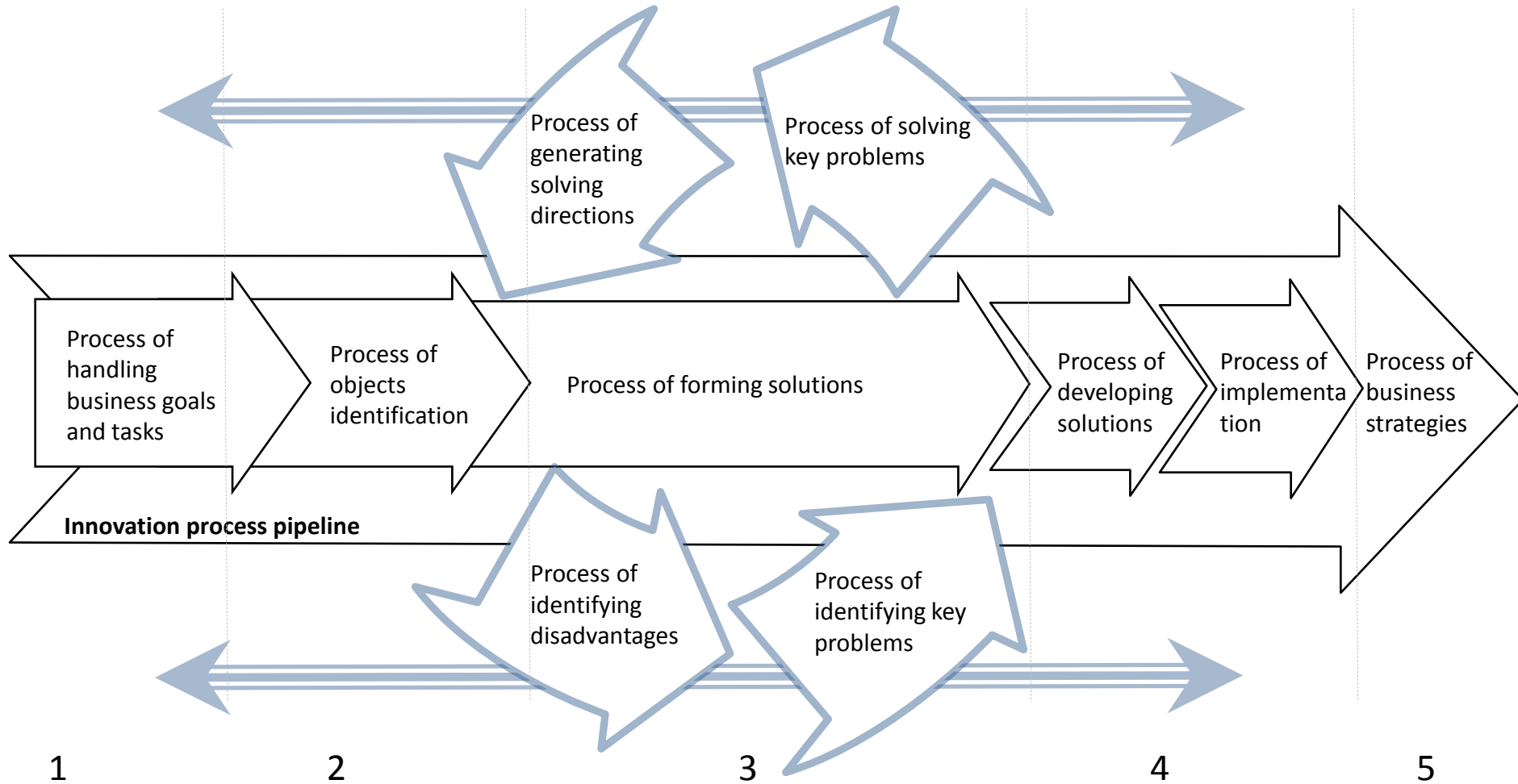
Types of IP



Phases of IP

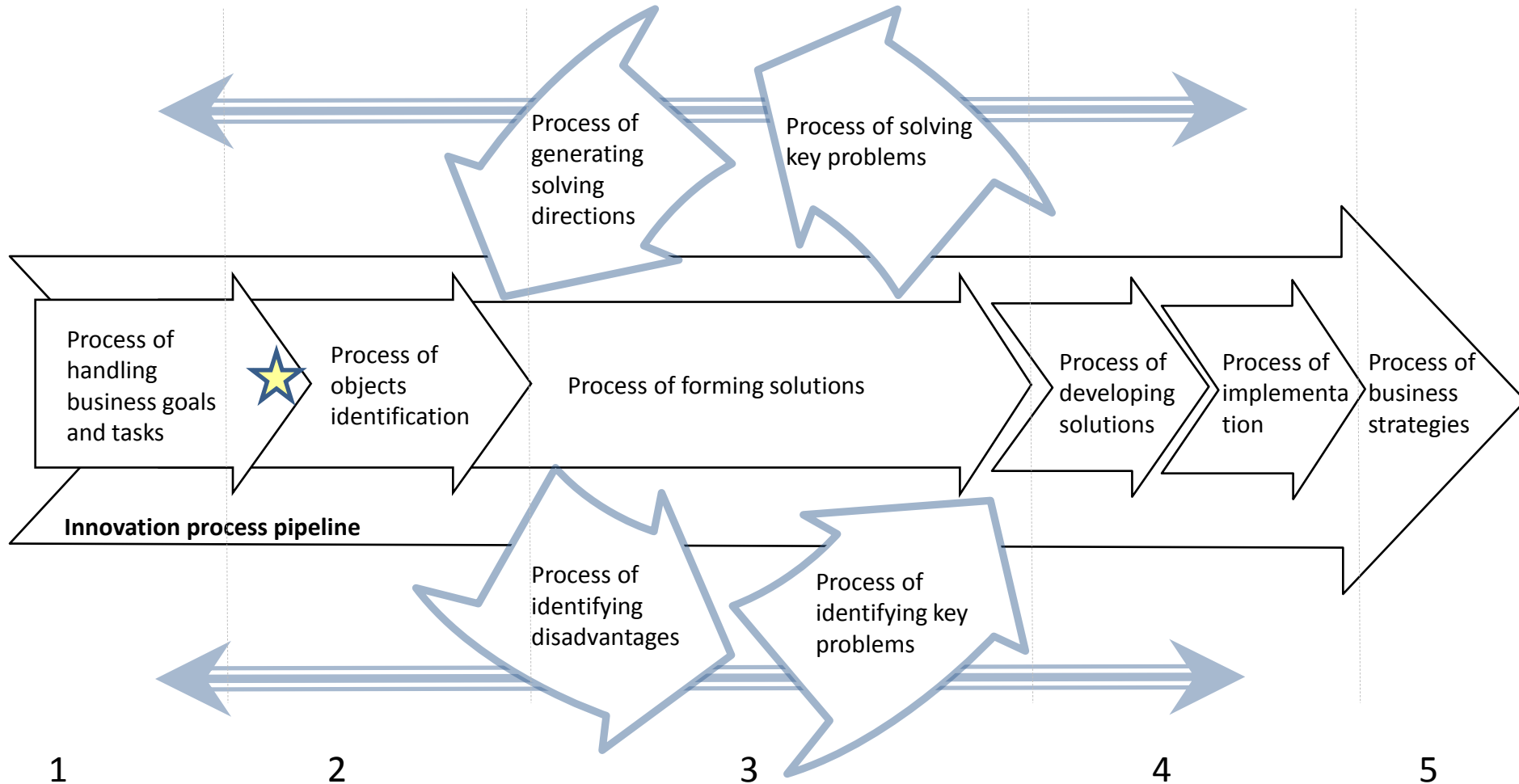


IP Lifecycle and Process Roadmap



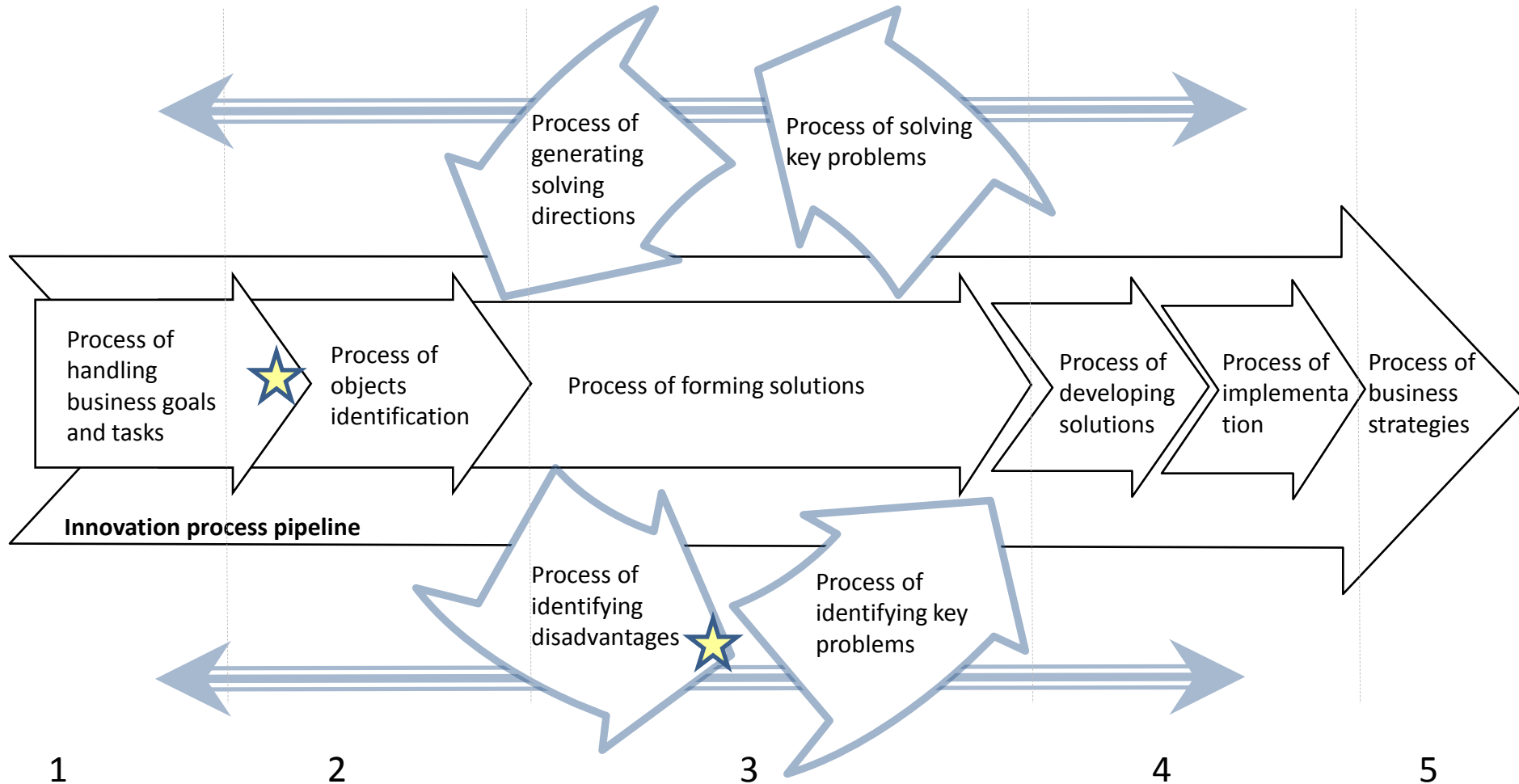
IP Lifecycle and Process Roadmap

- 1st critical zone:



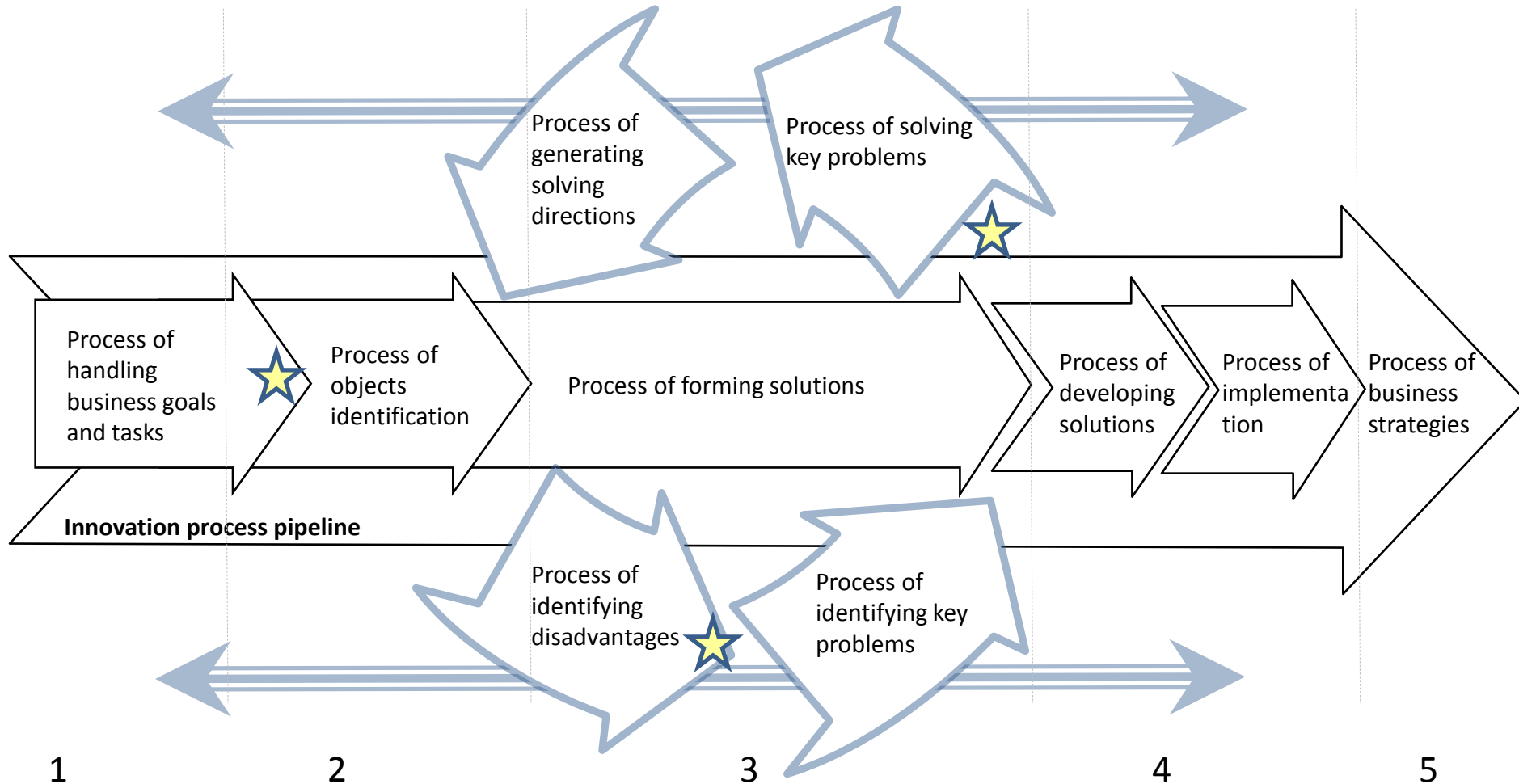
IP Lifecycle and Process Roadmap

- 2nd critical zone:



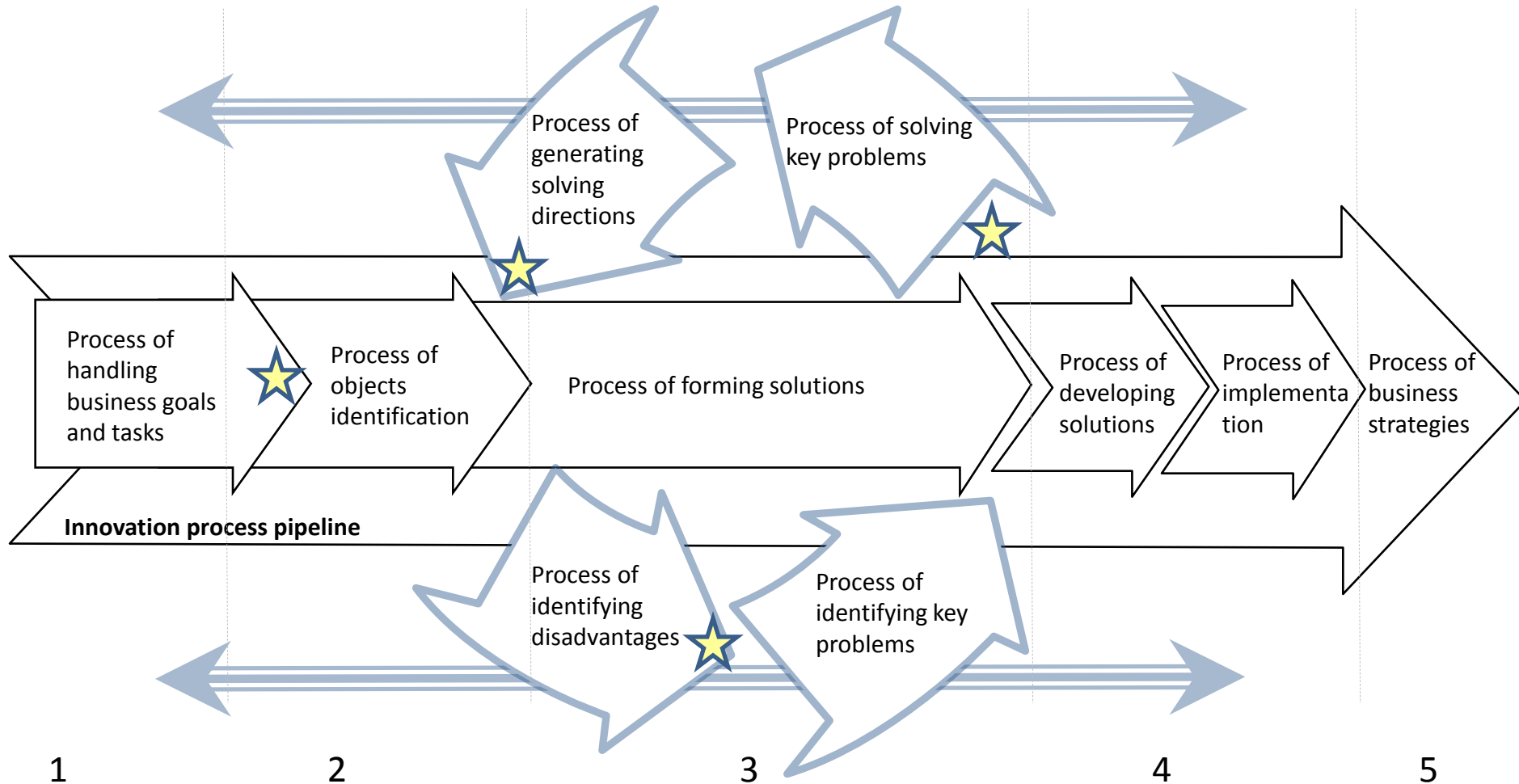
IP Lifecycle and Process Roadmap

- 3-d critical zone:



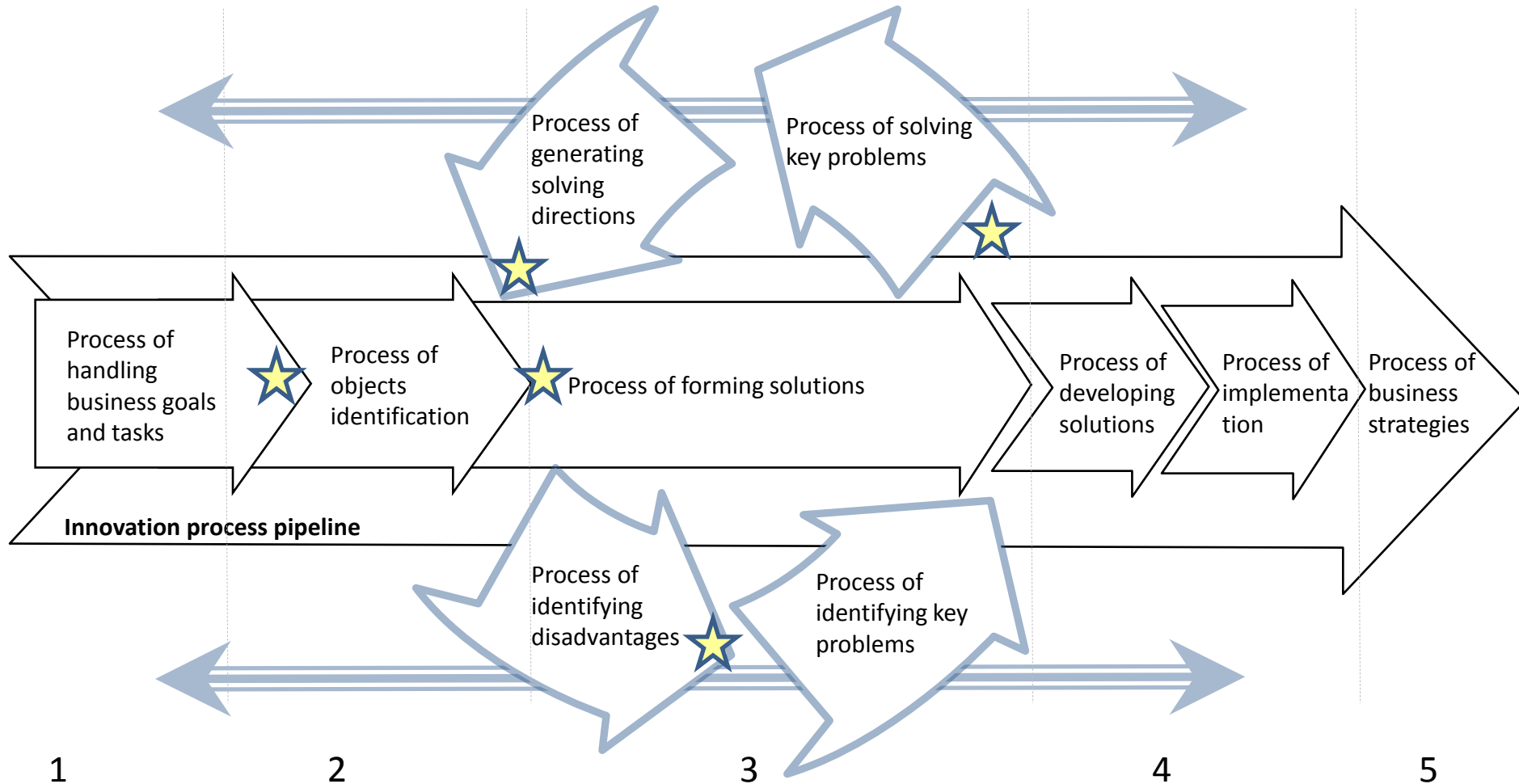
IP Lifecycle and Process Roadmap

- 4th critical zone:



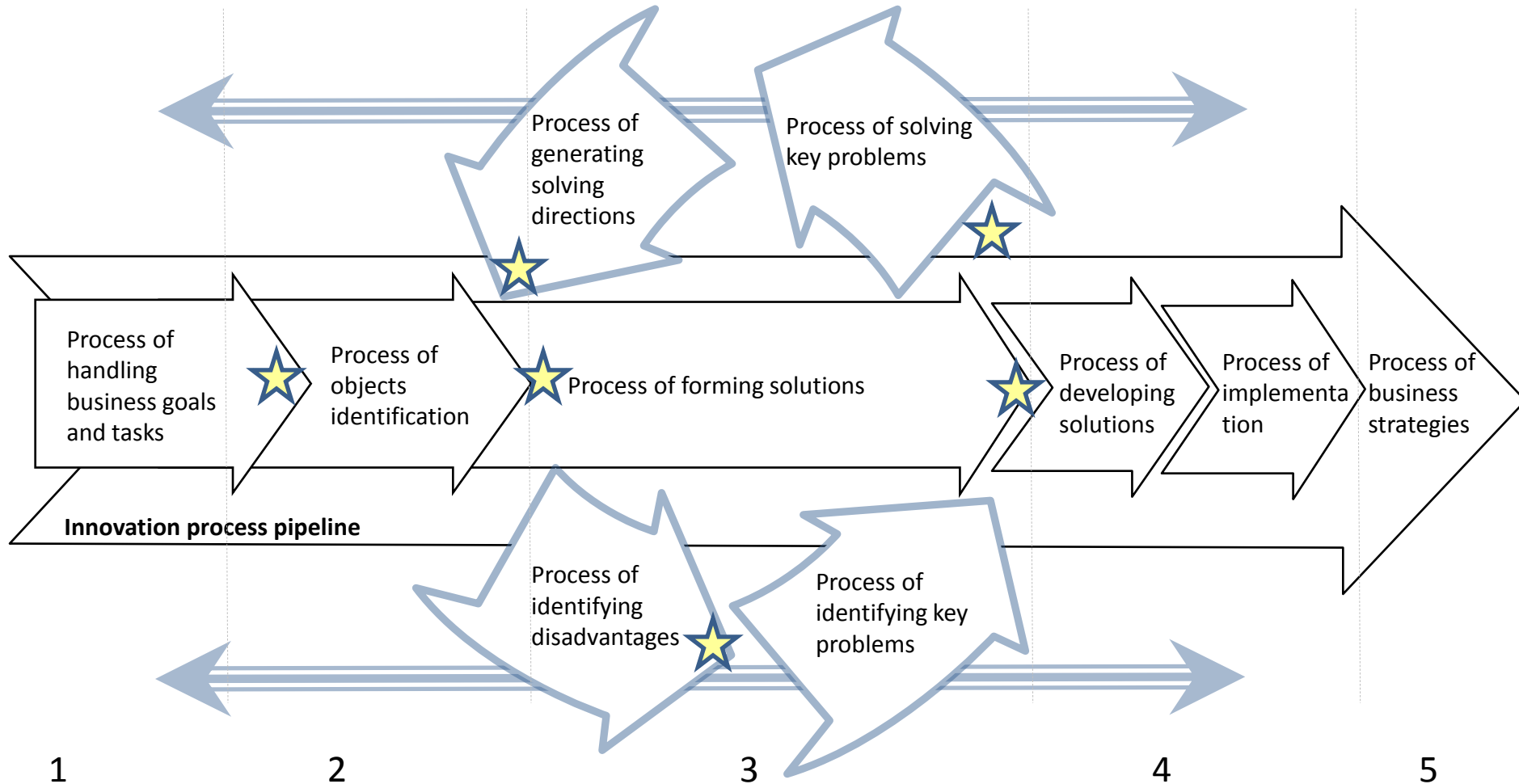
IP Lifecycle and Process Roadmap

- 5th critical zone:



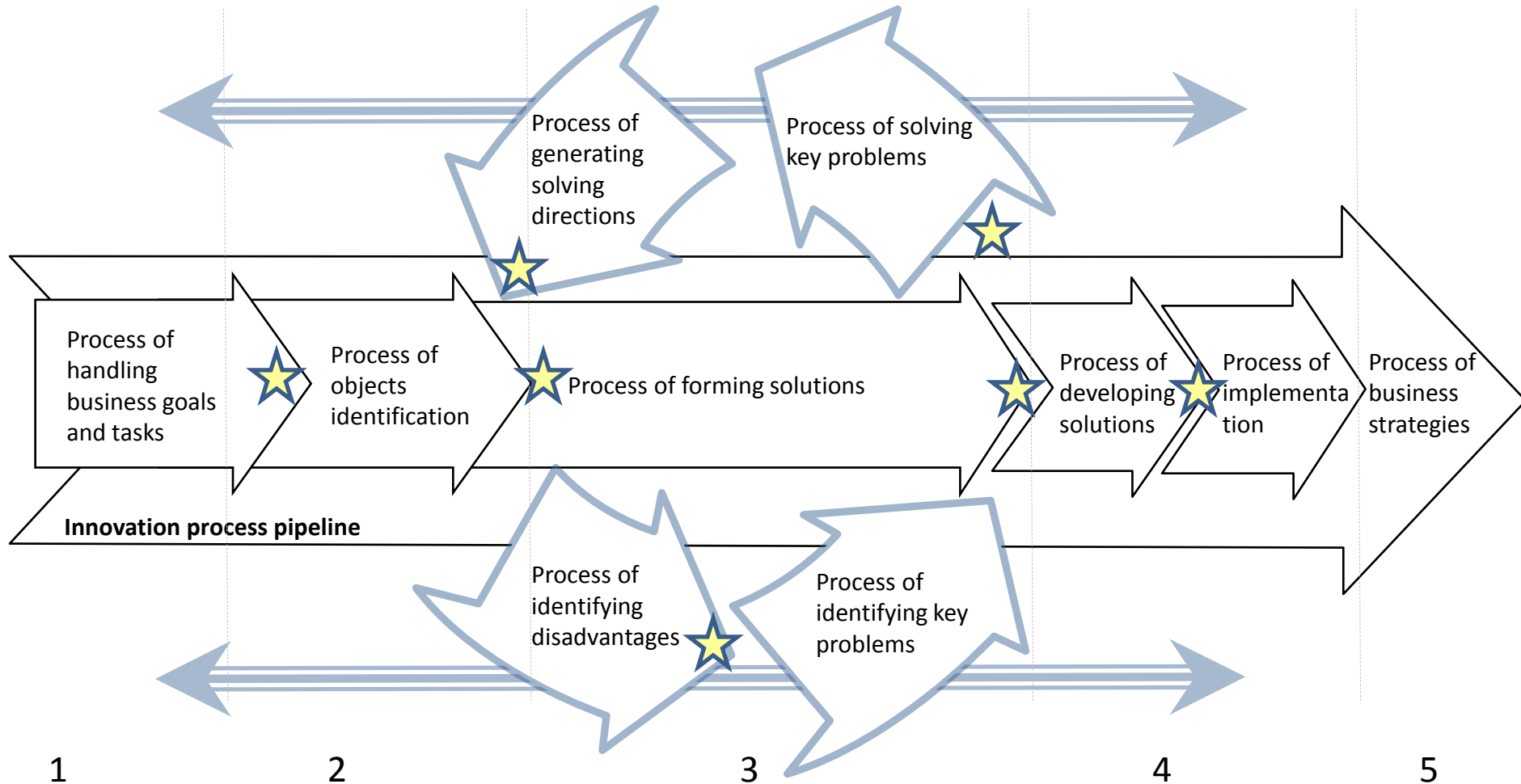
IP Lifecycle and Process Roadmap

- 6th critical zone:



IP Lifecycle and Process Roadmap

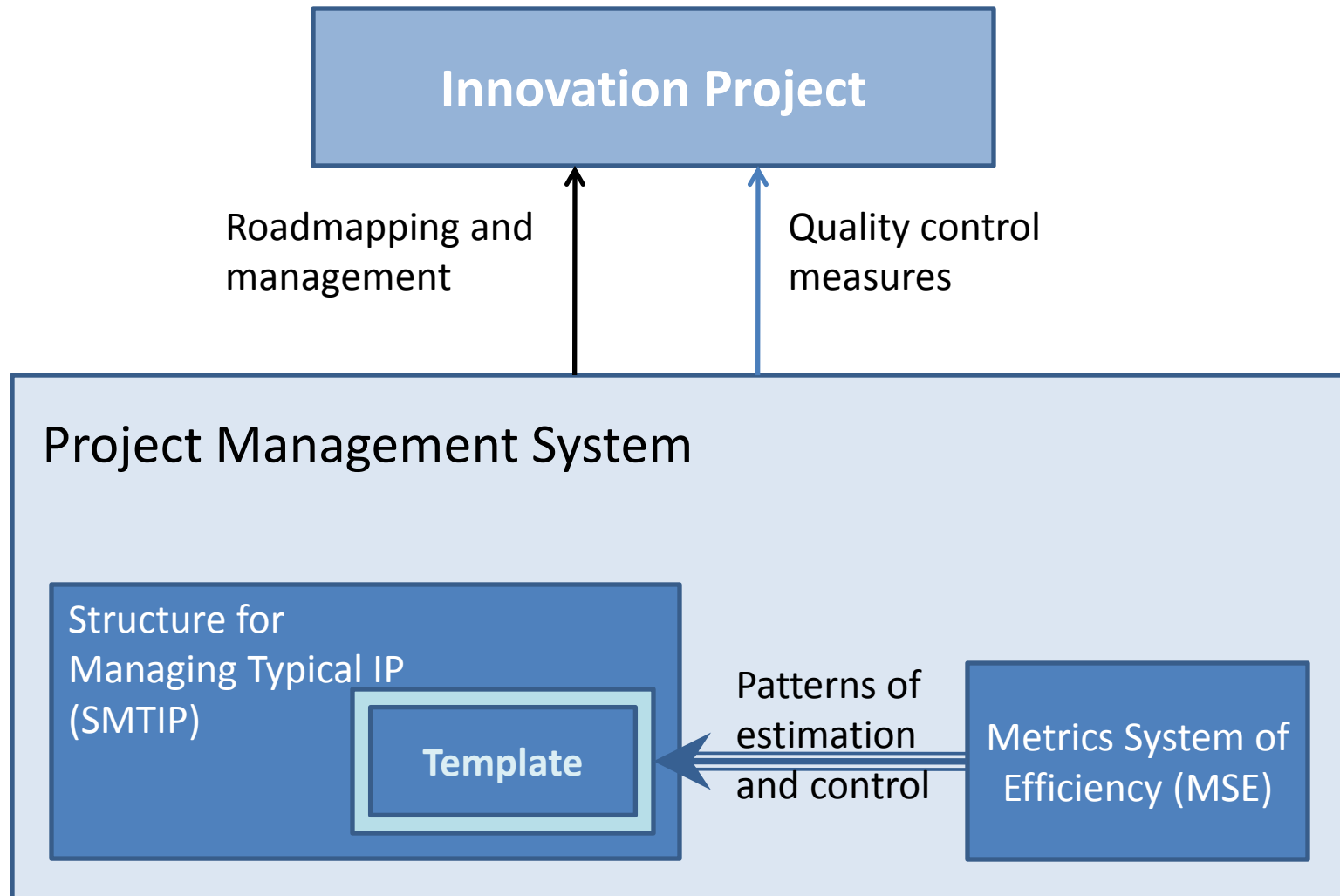
- 7th critical zone:



Tasks of IP Quality Management

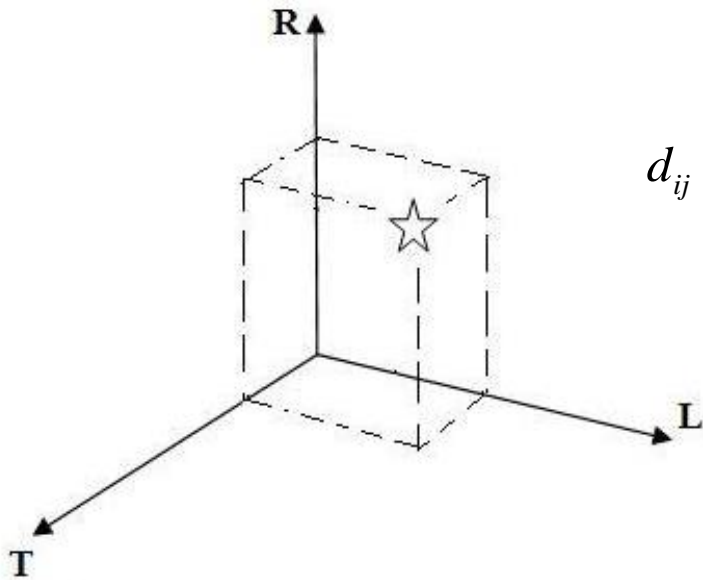
- Estimating advantages of products/processes
- Estimating disadvantages of products/processes
- Estimating risks of solving directions/solutions
- Estimating and controlling project resources
- Estimating and controlling project restrictions
- Controlling IP roadmap processes

Quality Management Tools for IP



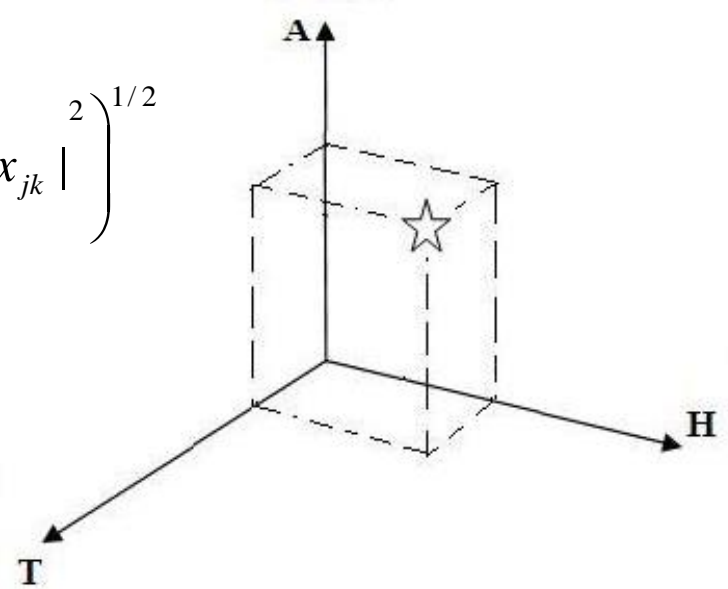
Metrics System of Efficiency (MSE)

- MSE consists of two metric spaces:



Metric space of Control C: (R, L)
R – Resources; L - Limitations

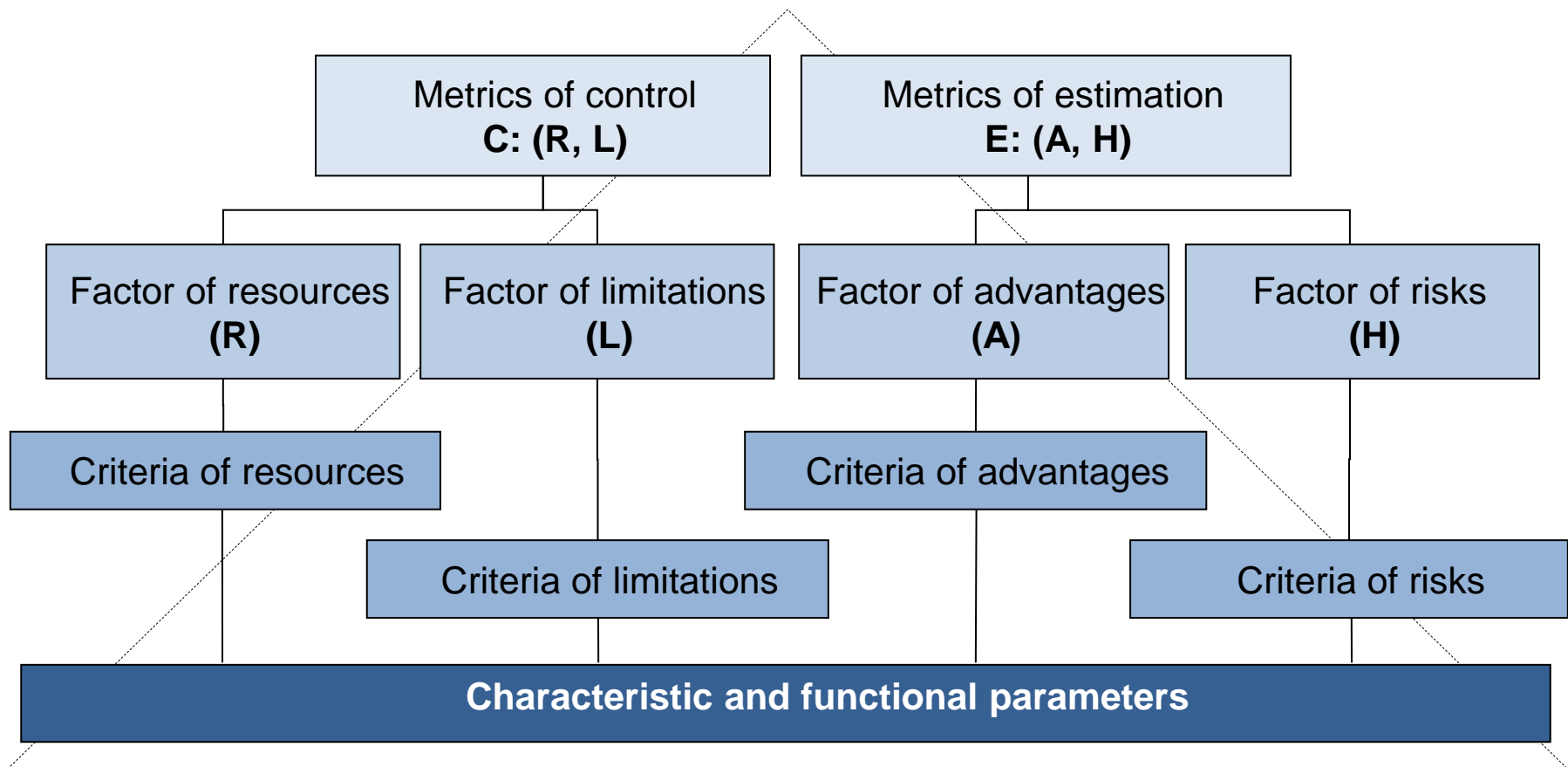
$$d_{ij} = \left(\sum_{k=1}^v |x_{ik} - x_{jk}|^2 \right)^{1/2}$$



Metric space of Estimation E: (A, H)
A – Advantages; L – Hazards (Risks)

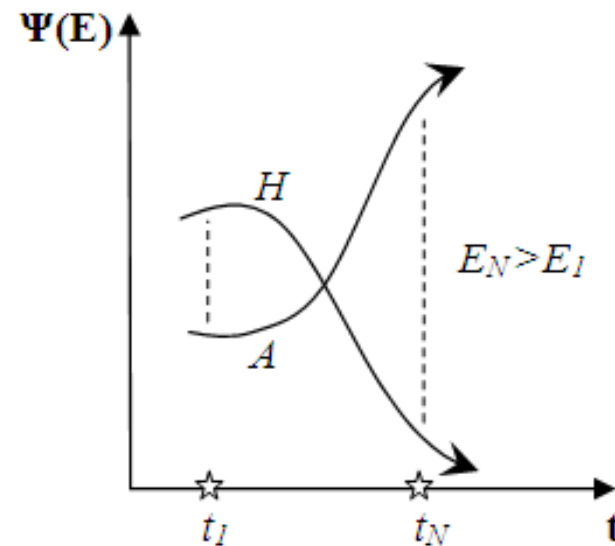
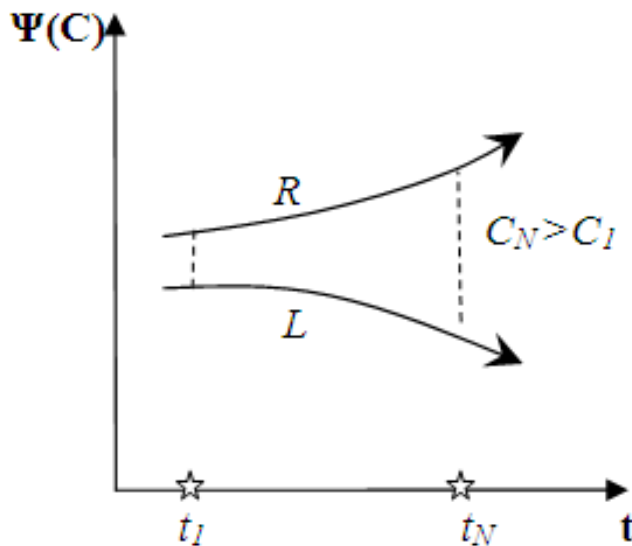
Metrics System of Efficiency (MSE)

- MSE components provides quantitative measures



Metrics System of Efficiency (MSE)

- Combinations of different metrics during IP lifecycle considers up to 21 checkpoints of quality management



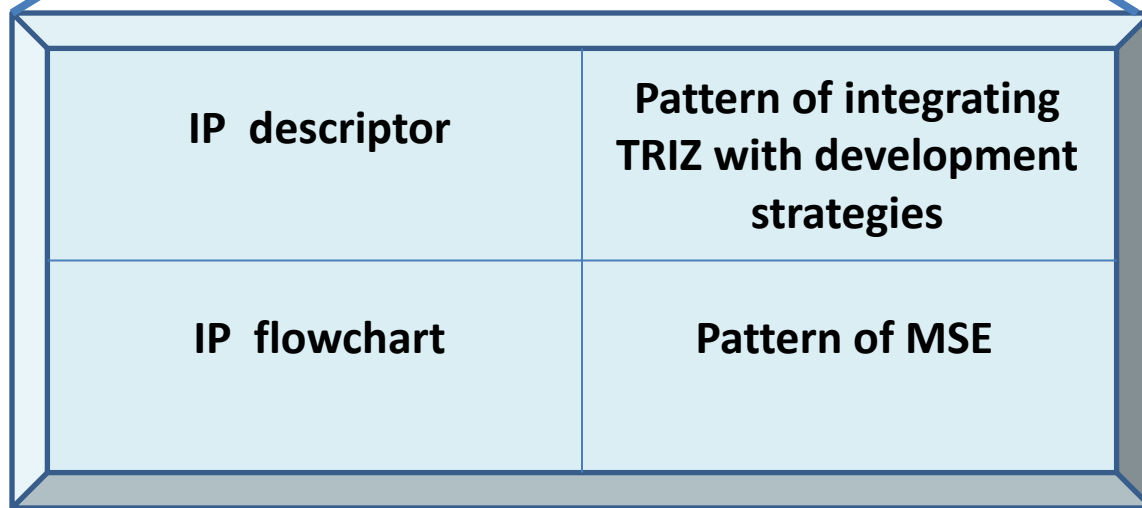
$$X_{i,j} = \sum_{i=N} \sum_{j=M} E_{i,j} \times C_{j,i}$$

N – amount of critical zones

M – amount of stages of project lifecycle

Structure for Managing Typical IP (SM TIP)

	Express projects (2 weeks-2 months)	Short-term projects (up to 1 year)	Mid-term projects (up to 3 years)	Long-term projects (more than 5 years)	Strategic program (10-15 years)
TIP-1	Crumpled paper texture	Crumpled paper texture	Crumpled paper texture	Crumpled paper texture	Light blue
TIP-2	Crumpled paper texture	Light blue	Crumpled paper texture	Light blue	Crumpled paper texture
TIP-3	Crumpled paper texture	Crumpled paper texture	Light blue	Light blue	Light blue
TIP-4	Crumpled paper texture	Crumpled paper texture	Light blue	Light blue	Light blue



Questions & Answers



Thank You!!