

# Third Generation Industrial Co-production in Software Engineering



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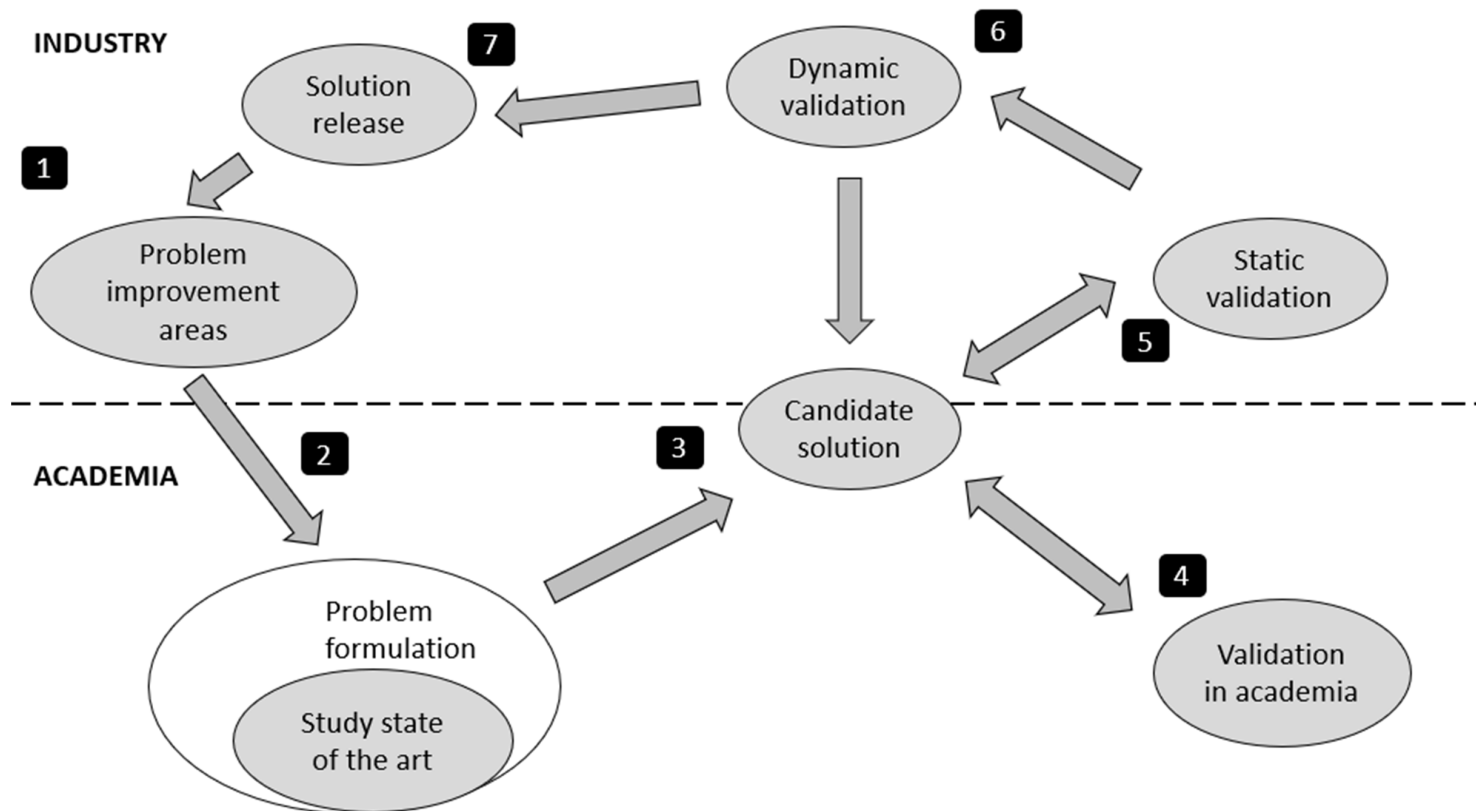


- The term co-production refers to the collaborative work of researchers and practitioners in industry to
  - identify challenges, and
  - devise solutions that can be used in practice.
- Co-production here is a macro-framework of research methods in which many other micro-methodologies (e.g. case studies, action research, experimentation, etc.) can be used in combination to achieve co-production



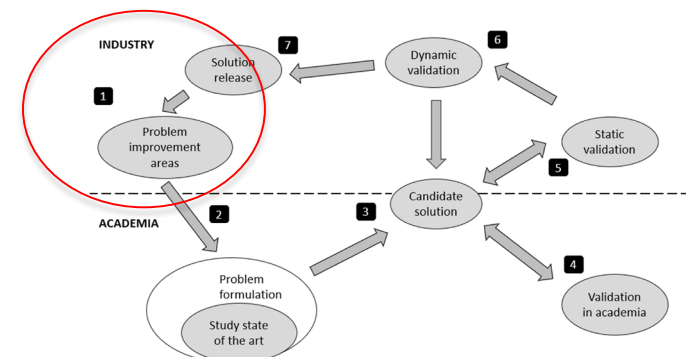
# Seven Steps

- The seven steps described below are not necessarily sequential or determinant in order or effort spent (they are presented in a chronological manner)



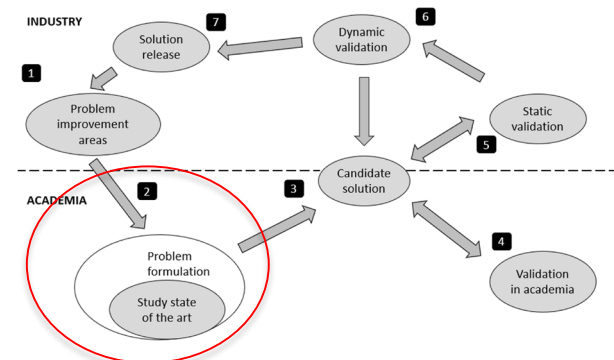
# 1 – What is the problem?

- Every company has problems and challenges
- Select the area for exploration (challenges and opportunities)
- Plan and execute the “assessment”
  - Collect and Report
- Select
  - Criticality of the challenge and potential benefits
  - Dependencies between the challenges
  - Your interests



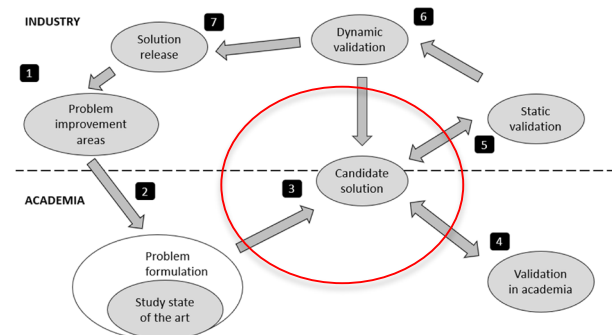
# 2 – Is it researchable?

- Research or consultancy (avoid doing the work for them)
  - Problem formulation
  - Study the state of the art



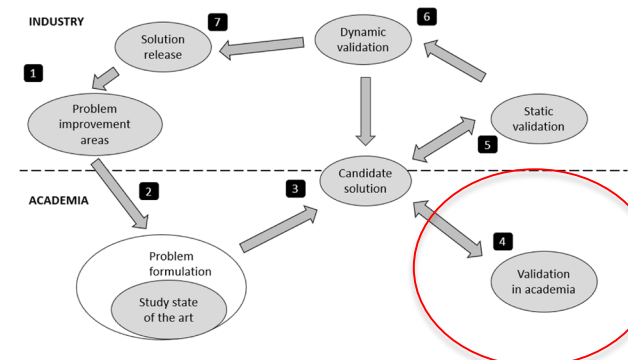
# 3 – The solution or not the Solution ?

- Studying a phenomenon in industry is relevant, worth-while and publishable
- At some point we need to change the nature of the research activities from
  - descriptive (what we can observe) to
  - prescriptive (can we develop a way to improve the current way of working)
- At the core of any solution is a continuous collaboration with industry partners while developing the solution
- This is a large step that requires significant effort



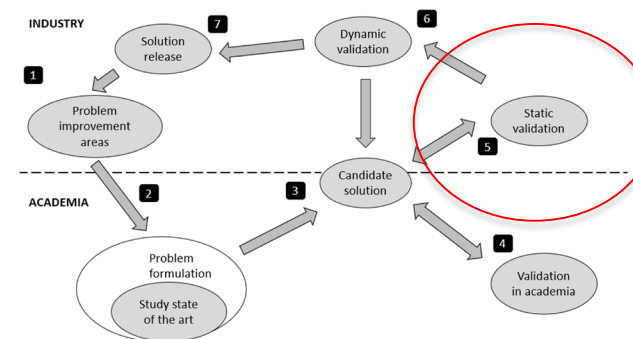
# 4 – Static validation in academia

- You devise a “solution” of some sort, whether it be a method, model, framework, way-of-working, organizational improvement, tool or equivalent, and try it out on so called “toy examples” and/or use students as subjects to try it out
- It should not be the last step – rather a sanity check



# 5 – Static validation in Industry

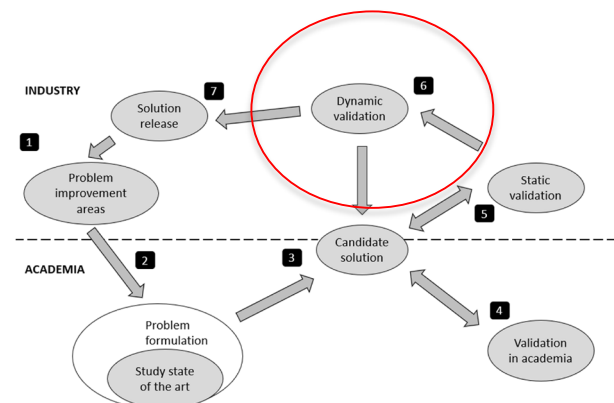
- Try out your “solution” with practitioners as subjects but on a limited scale
  - Workshop (ask for opinions)
  - Lightweight production (run your solution on example scenarios)





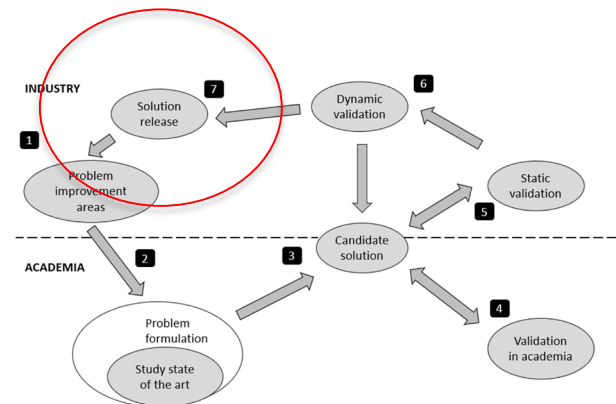
# 6 – Dynamic validation in Industry

- Let industry use your solution without your presence
  - Sell-in, buy-in, find the right “case”
  - Data gathering
  - Data analysis
  - Training, coaching and supporting



# 7 – Release

- Use data from step 6 to build the argument for further transfer into the organization
- Use this step to build trust for future research



# Questions

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