

Re-think problem solving process when using supercomputing

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Focus

- We are focusing on how to re-think problem solving process when using High-Performance Computing (HPC or supercomputing) not only for mechanical analysis (stress, heat etc. checking), but problem modeling and early presenting to the problem owner with support of 3D simulations.

Today

- Simulations in R&D projects are very common in various industrial segments (e.g. automotive, power plants, building etc.).
- 3D simulation has come out from not for profit laboratories and it had become an urgent service requested by industrial partners of consulting ventures.
- Recently companies not yet invest in High Performance Computing (HPC or supercomputing), because it's uneconomic at current tasks and high skilled engineers can not be utilized.

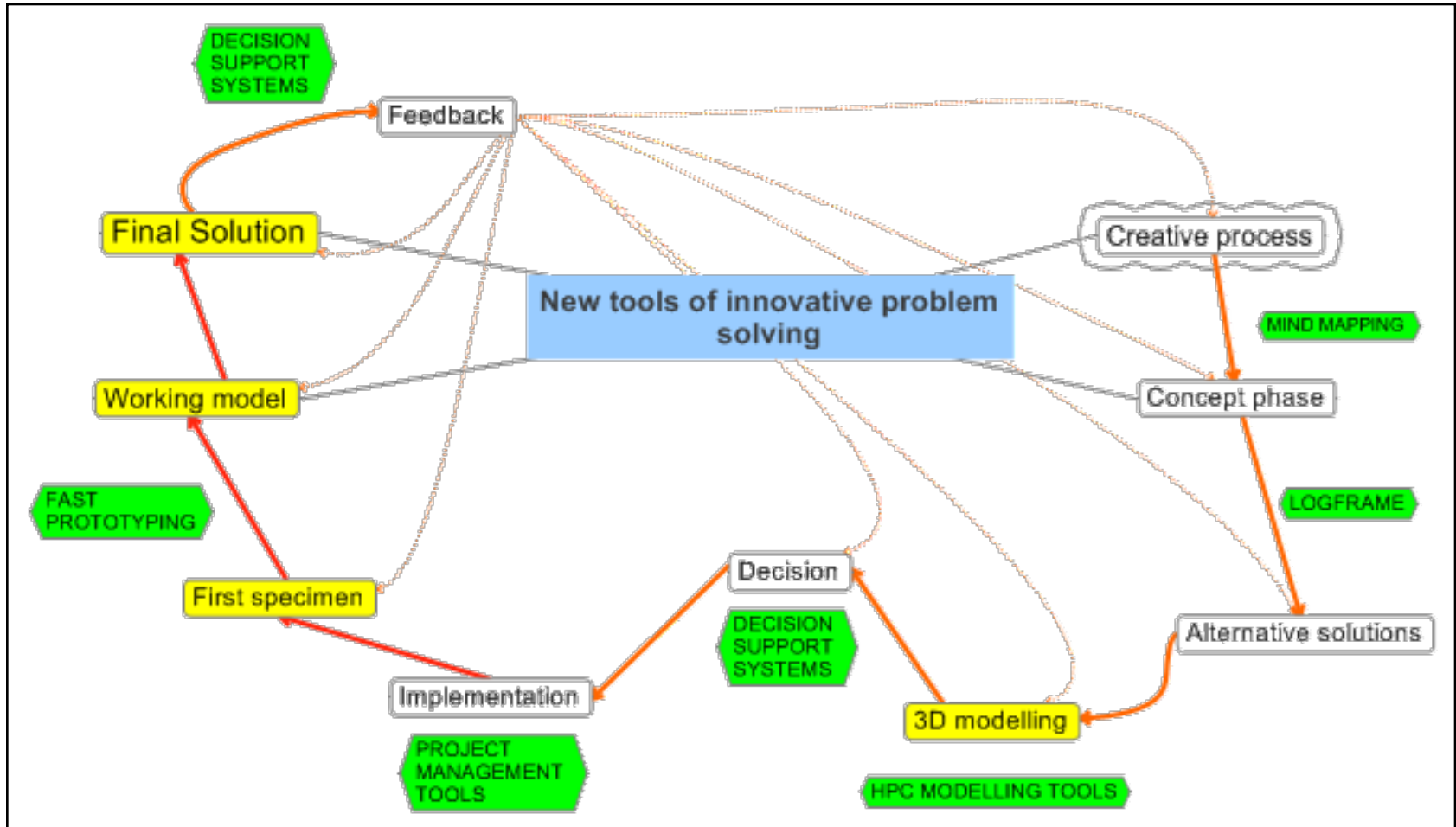
Key question

- Key question is identifying phases of innovation processes which are supportable by HPC, mainly with 3D simulations.
- Regarding to most common original model we have to identify phases of innovation processes which are supportable by HPC and then try to expand phases with particular HPC applications and functions. Finally we can create new model with new phases for innovation processes.

Our new model

- Our new model of innovation process using new ways of HPC support is to strengthen innovation activities not only in automotive industry.
- It can be used almost all problem solving regarding to research and development activities with enhanced level of creating new things. This is a new way of thinking also, because new tools can create fundamentally new solutions not recognized before.

Model



Recommendation

- Our model is widely usable in early phase of any kind of product development or other problem solving not only for automotive industry but any other innovative segment of economy such as development of electrical equipment, measurement technologies etc.
- We also recommend our model for teaching in innovation courses, especially for expand models and tools are used in innovation processes.

Thank you for your attention!