



CTU in Prague, Faculty of Civil Engineering

<http://www.fsv.cvut.cz/>



Department of Economics and Management

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Laboratory of Technical-economic Decision Making Decision Lab (DCL)

Department of Economics and Management

<http://decisionlab.fsv.cvut.cz/>

Classical topic:
Time is money

Research topic:
The change (innovation) is money too

...change is power
...the change brings advance
...the change brings a new solution
...change has potential of the power

Project – Innovation

Activities:

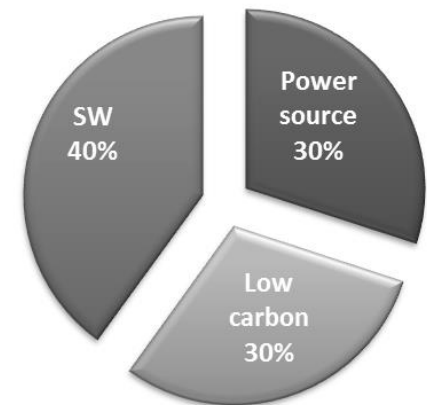
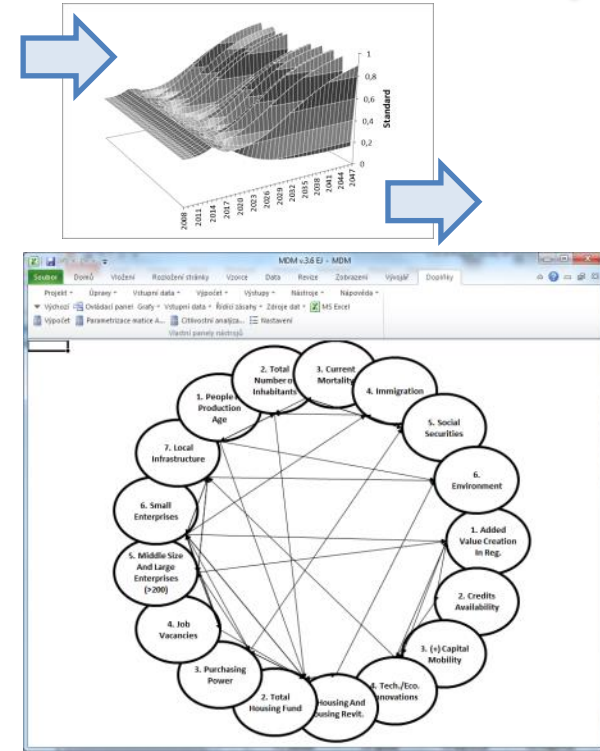
- Change management in basic research
- Specification of Innovation (Problem)
- Change Management Strategies
- SW - *Modified Dynamic Model* (MDM)
- Modification of the theory

Assumed budget: cca 650 t. €

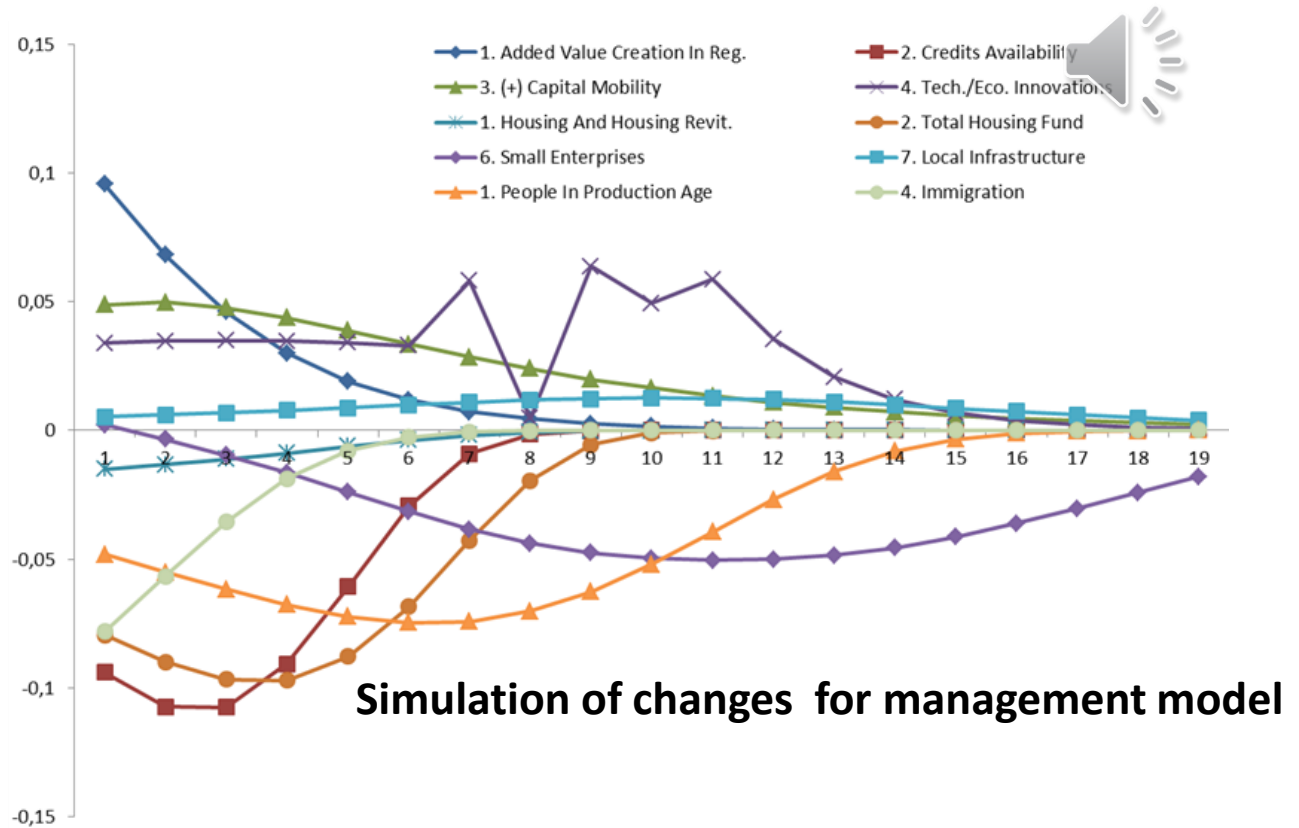
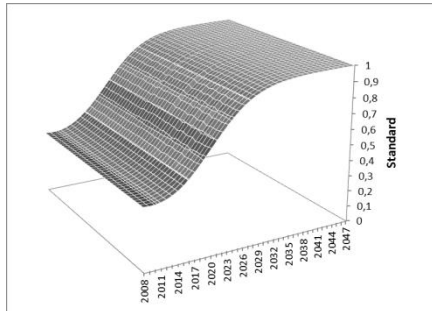
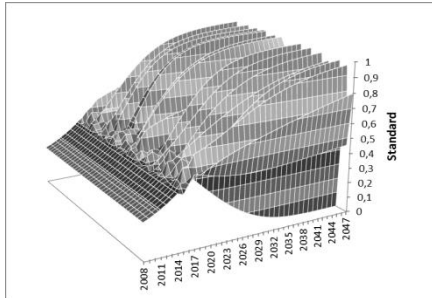
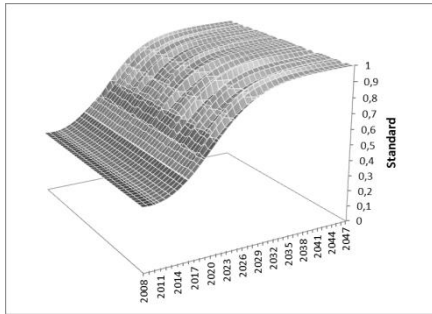
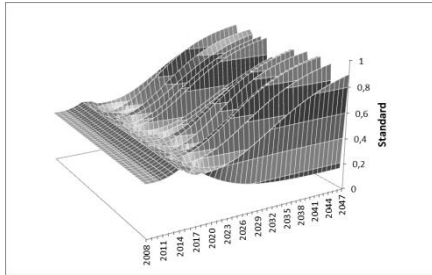
- Theory of bladeless turbine power station, 30%
- Testing solution to minimization of CO₂ emission, 30%
- SW tools Norway version, 40 %.

Outputs:

- new working places (researchers, PhD, ...),
- new theory,
- new terminology,
- impact publication activity,
- new solution of carbon power sources,
- utility models, patent.



Simulation of innovation process

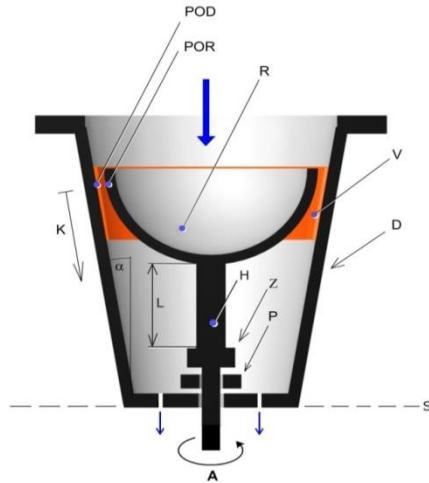


Modified Dynamic Model (MDM) – calculation tool.
More ways in innovative process.
More solutions.
More results.

Example of excellent research results

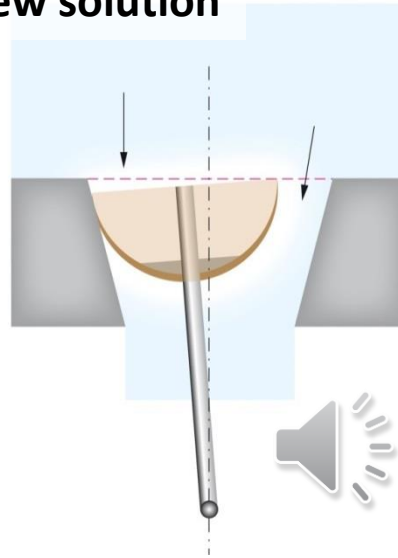
(finish results of the project team)

Original solution



Basic position of supported rotor

New solution



Deviation of a supported rotor
(new position of rotor)

In Figure 3 individual marks represent: D – outlet nozzle (stator of turbine – nozzle), R – hollow rotor, H – shaft of a rotor, Z – shoulder of a shaft, P – bearing, V – space in which there appears the realization of the rolling phenomenon, POD, POR – points of contact of the rotor with the outlet nozzle, L – shaft length, α – angle of the wall of the outlet nozzle, K – direction from which there starts the reduction of the space between rotor and outlet nozzle, A – place for withdrawing of torque (the shaft rotates and at the same time performs a precession movement). Liquid enters into the turbine against the rotor that is in the direction of the big blue arrow and flows out through the orifices in the front wall of the outlet nozzle in the direction of the small blue arrows.

Implementation Example 1



Improved turbine with a rotor 120 mm



Example of excellent research results

(finish results of the project team)



Implementation Example 3

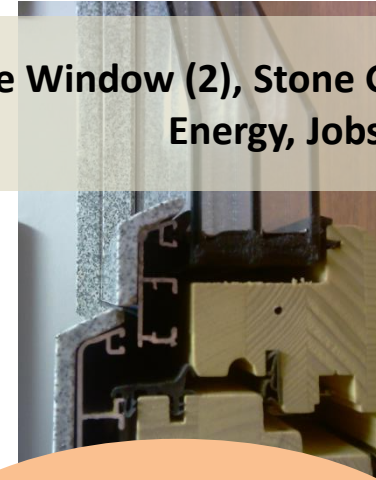


- Low CO₂
- Long Life Cycle
- Low LC Costs
- Attractive
- Durable
- Sustainable
- Local material
- Local workforce
- ...
- ...



Stone Window (2), Stone Glazing (3)
Energy, Jobs, Low CO₂

Implementation Example 2



The changes of the structural parameters by using of the software calculating. The solution needs verification through the production.

Final word

Project expectation:

- Modification of the Change management
- Modification of the SW support
- New version of the *Modified Dynamic Model*
- Modification of the theory
- Testing of the SW
- Publication activity

Outputs recapitulation:

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- new terminology,
- impact publication activity,
- new solution of carbon power sources,
- utility models, patent.

Thanks for your attention

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