



Congreso Nacional del Medio Ambiente (Conama 2012)
Madrid del 26 al 30 de noviembre de 2012

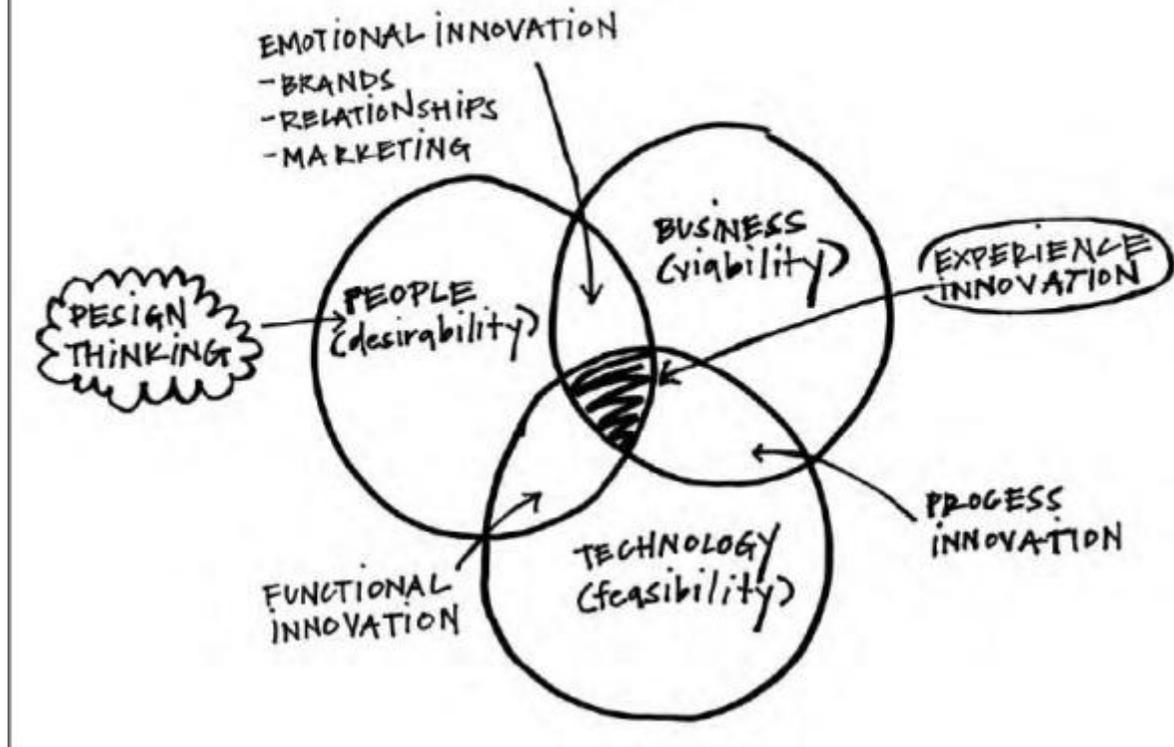
Avances en sistemas de potencia de plantas termosolares

Christian Gasparín

OHLI Power

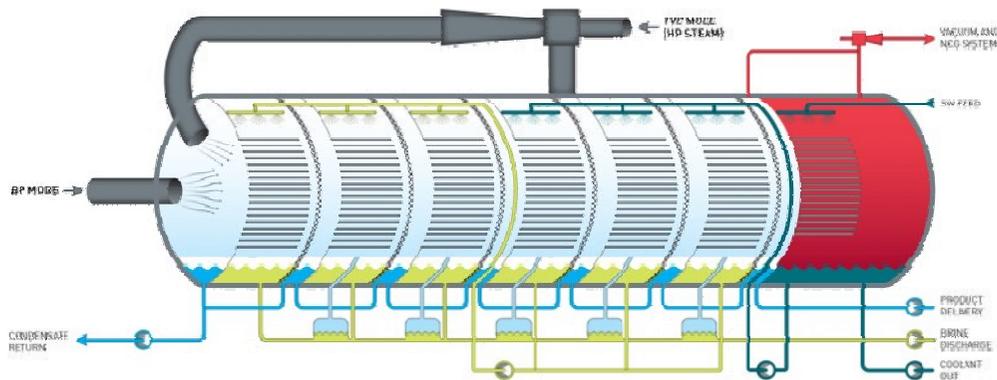


An Innovation Framework

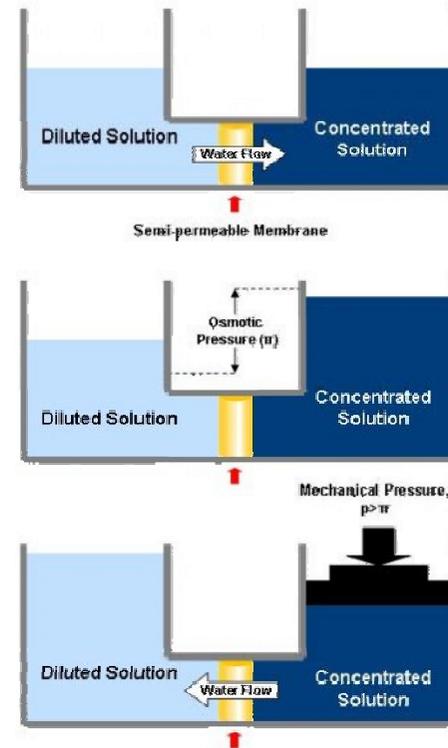


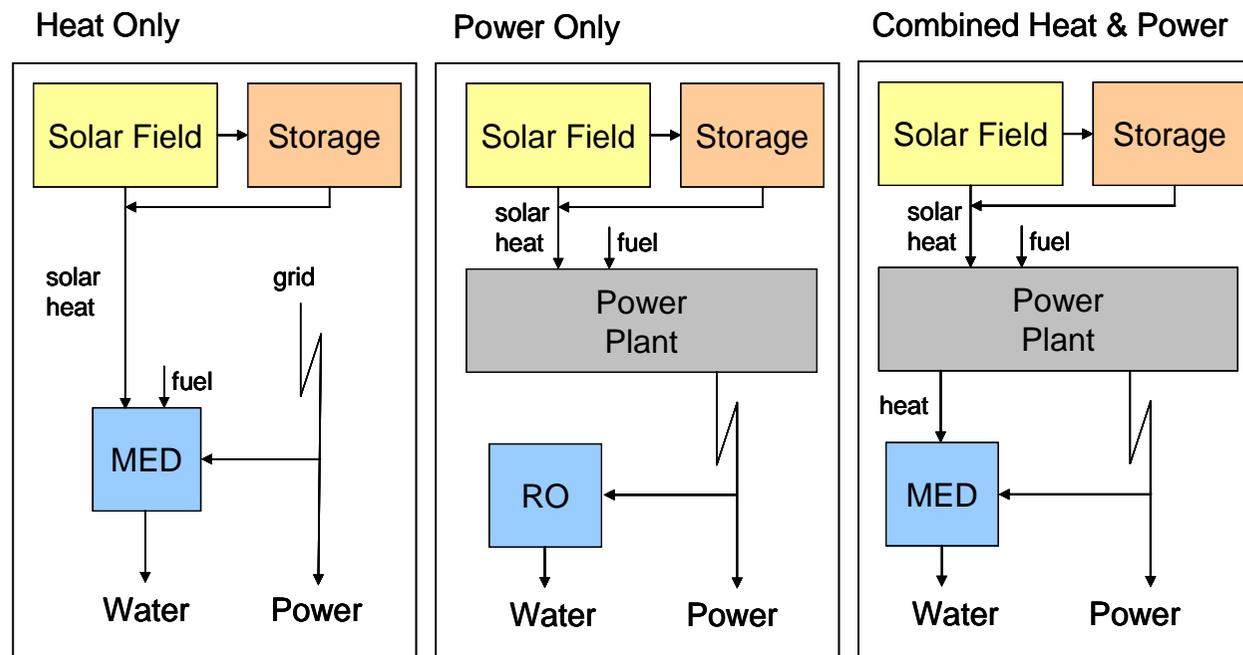
Sea Water Desalination

Thermal Processes



Membrane Processes

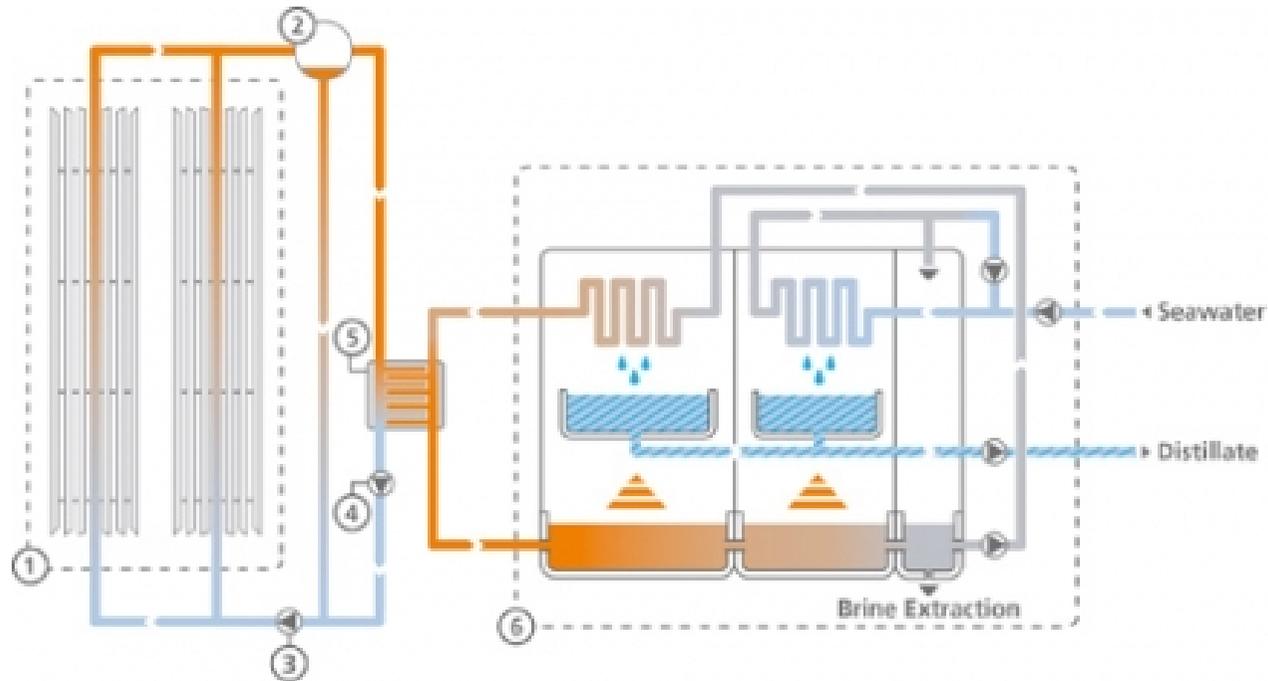




AQUA-CSP

Concentrating Solar Power for Seawater Desalination

German Aerospace Center (DLR)
 Institute of Technical Thermodynamics
 Section Systems Analysis and Technology Assessment



Using the sun's energy to desalinate water is a logical step in regions with strong solar irradiation and a high demand for potable water.

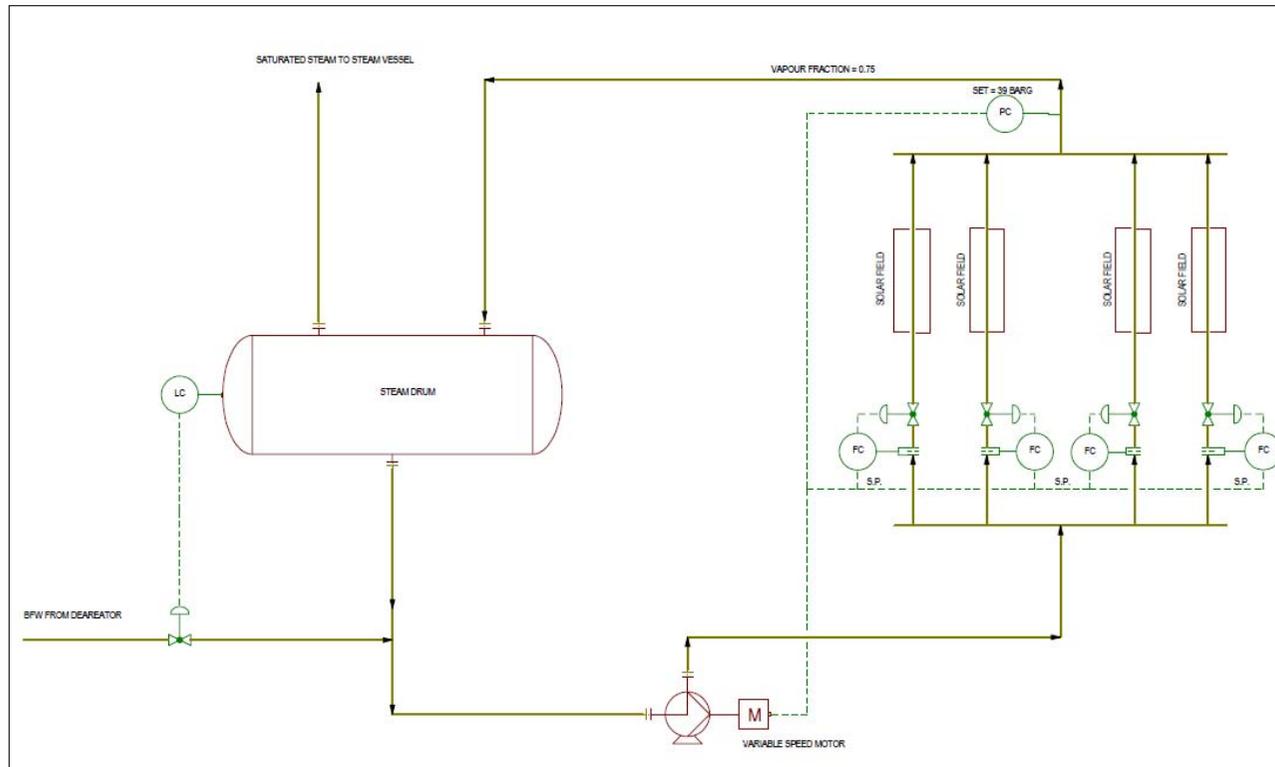
<http://www.novatecsolar.com>



**OHL
Industrial**

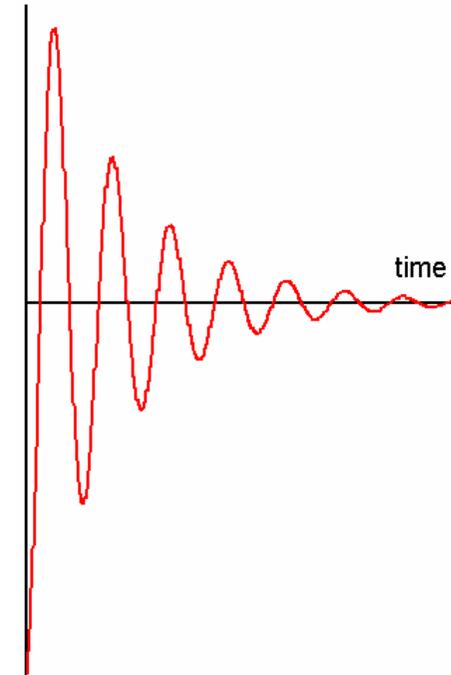
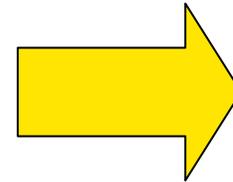
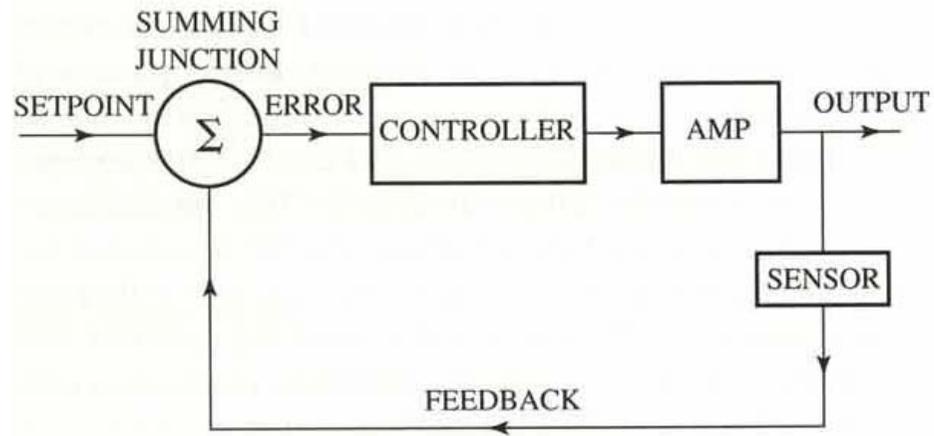


Process Flow Diagram



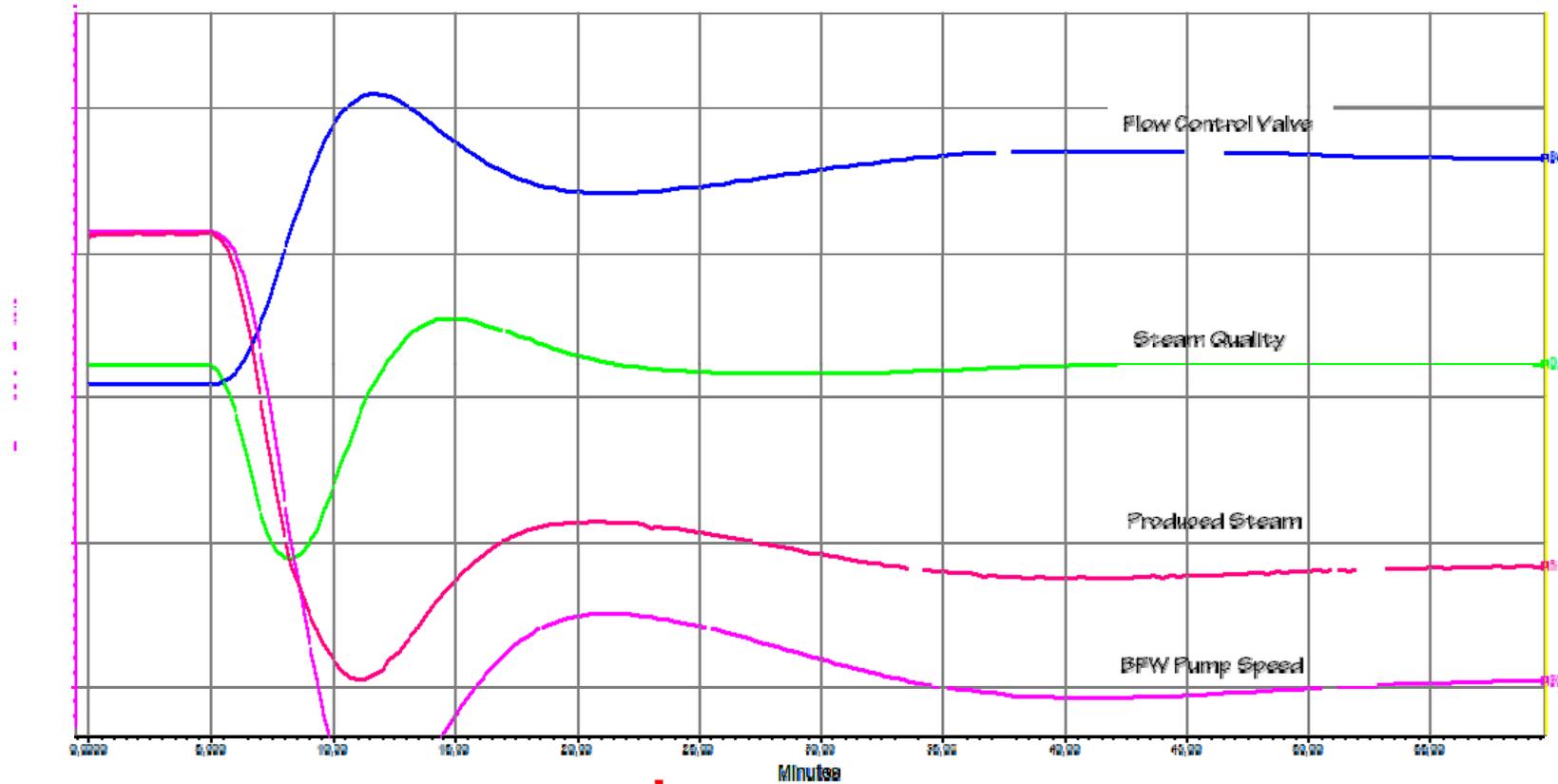


Classic Control Block



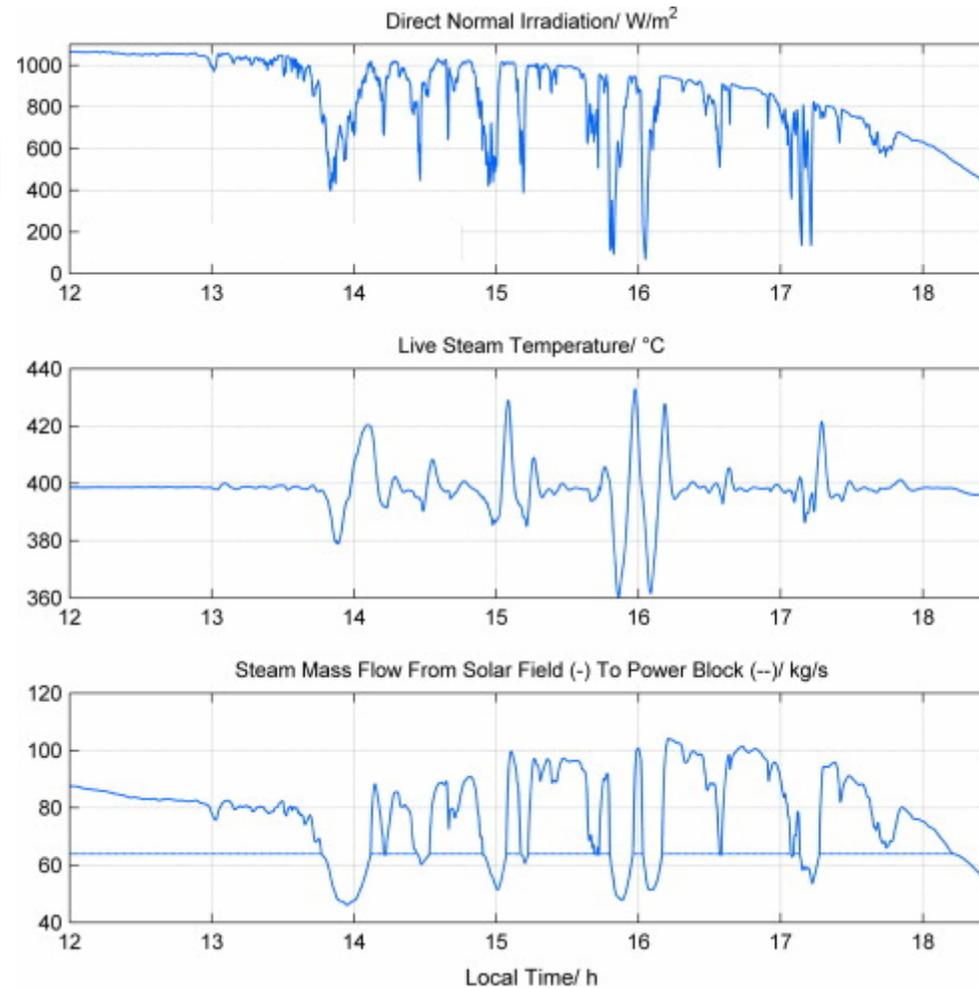


Actual Control Response



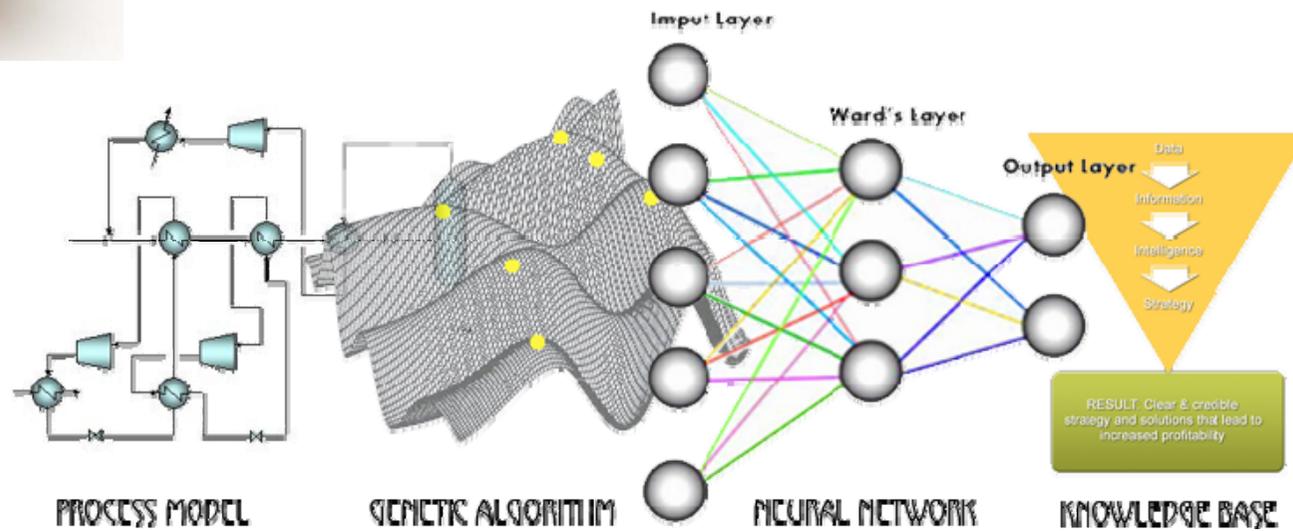


Technology Challenge





The New Technology Puzzle

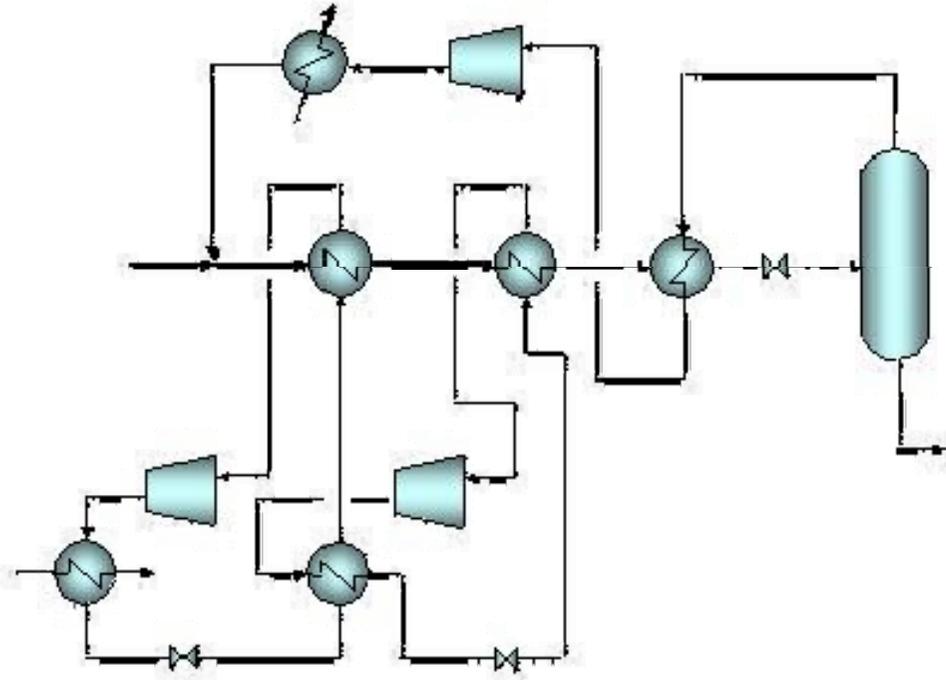


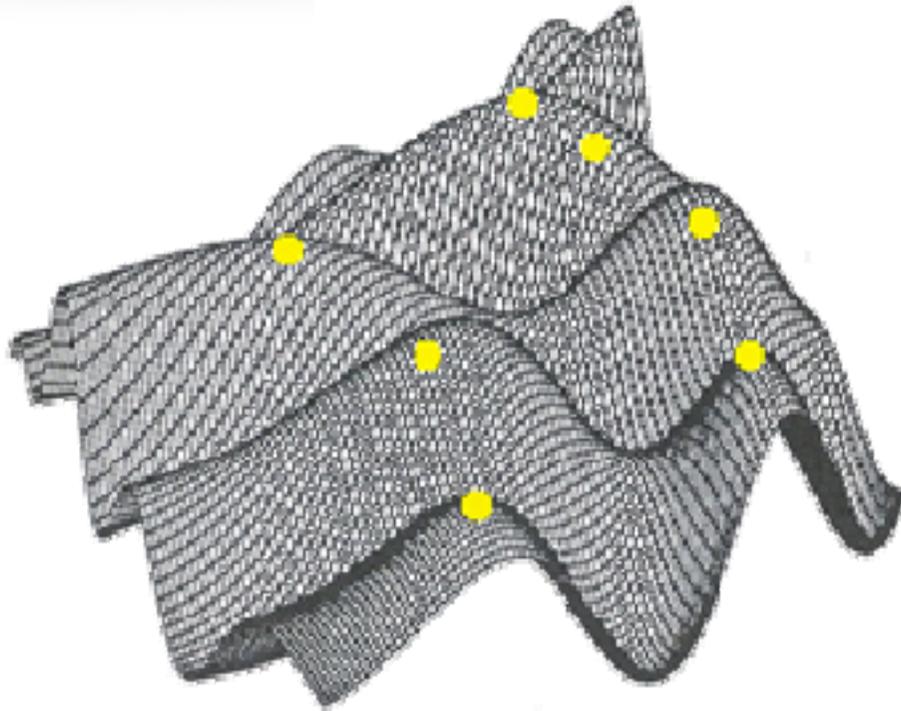


Process Model

Process Model also call Process Simulation is a thermodynamic and mathematic representation of the process; this model could be in steady state or dynamic.

The importance of the dynamic model resides in its reliability to reproduce the behavior of the process during the transition between states.





Genetics Algorithms

The Genetic Algorithm (GA) is an optimization and search technique based on the principles of genetics and natural selection. A GA allows a population composed of many individuals to evolve under specified selection rules to a state that maximizes its “fitness”.

The method was developed by John Holland in 1975. David Goldberg is known as the first user of GA in a “real world problem”, when he solved a difficult problem involving the control of gas-pipeline transmission for his dissertation in 1989.

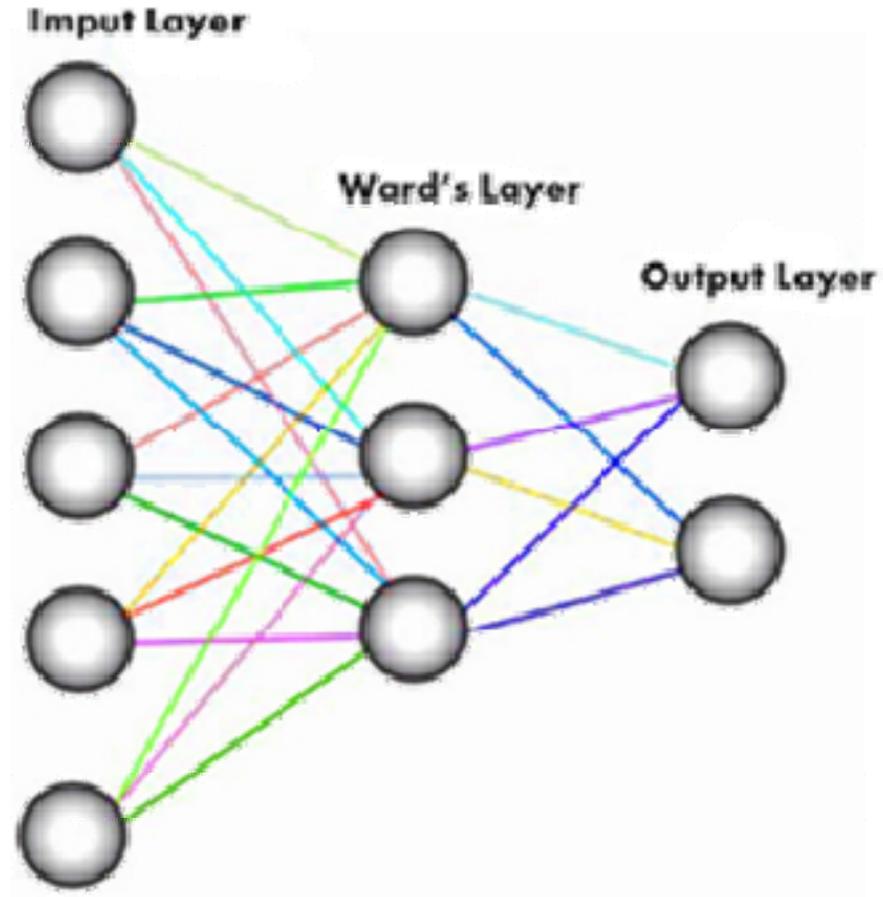




Neural Networks

A Neural Network is, in essence, an attempt to simulate the brain. Neural network theory revolves around the idea that certain key properties of biological neurons can be extracted and applied to simulations, thus creating a simulated and very much simplified brain.

Learning in neural nets is primarily a process of adjusting connection strengths.





Knowledge Model

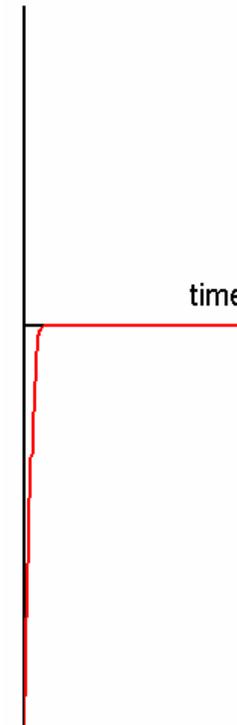
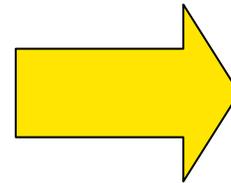
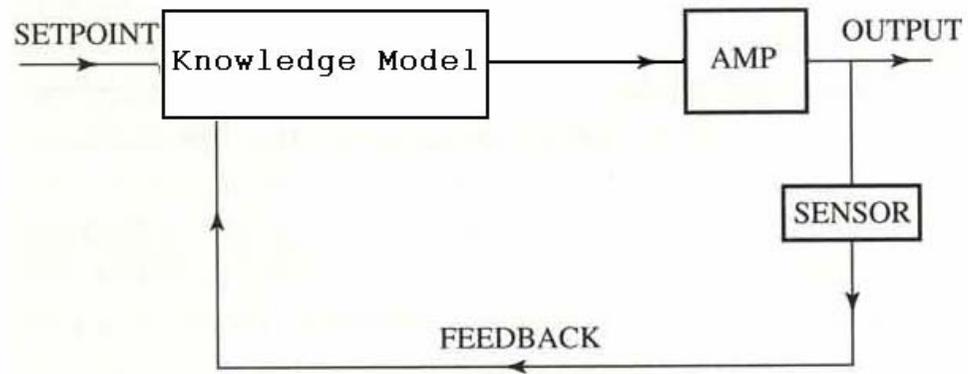
Knowledge Modeling is the procedure of creating a computer interpretable model of knowledge or standard specifications of a process.

The resulting knowledge model can only be computer interpretable when it is expressed in language or data structure that enables the information to be interpreted by software and to be stored in a database or data exchange file.



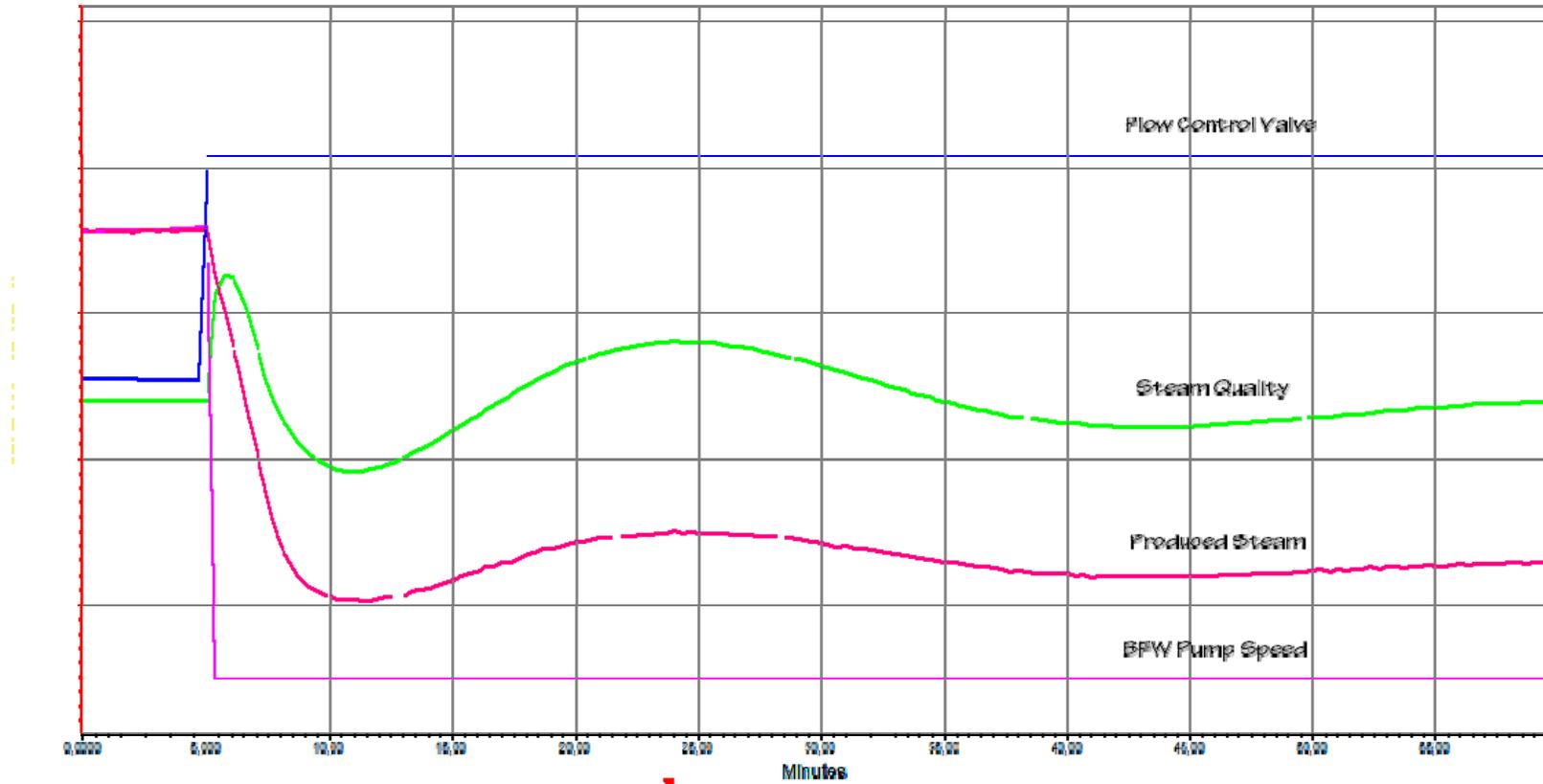


New Control Block





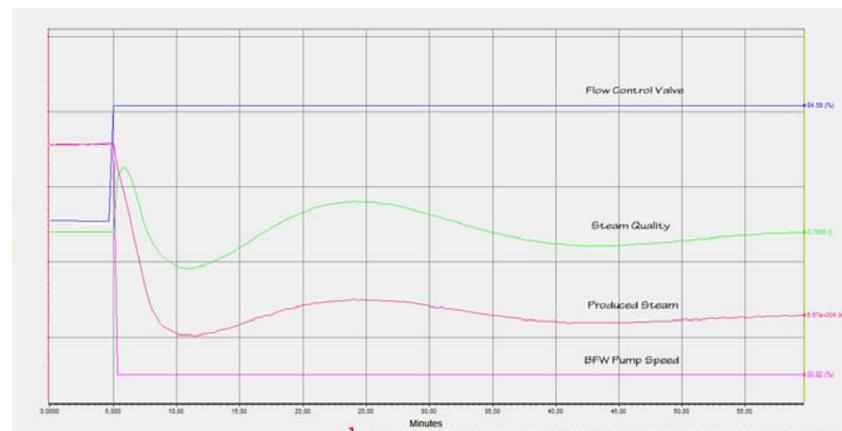
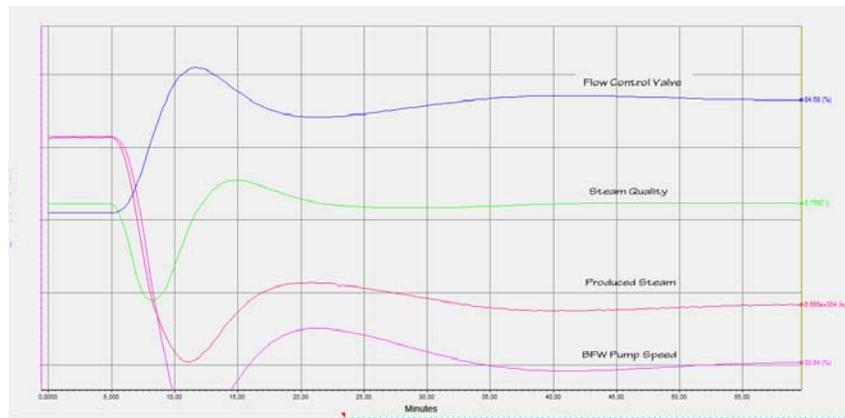
Propose Strategy response





Actual Control Response

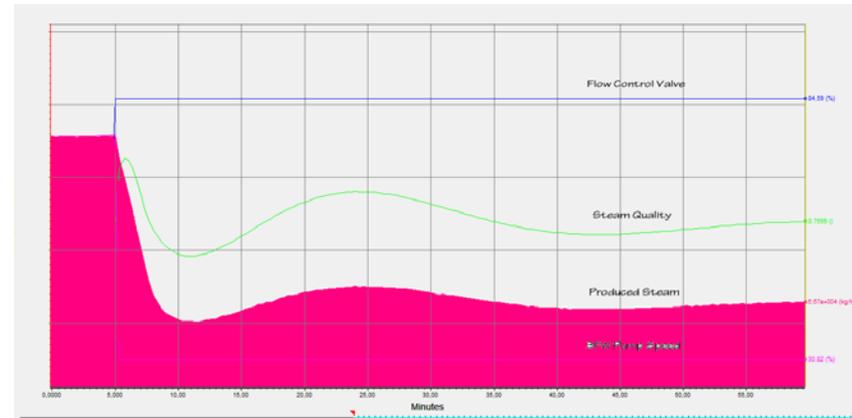
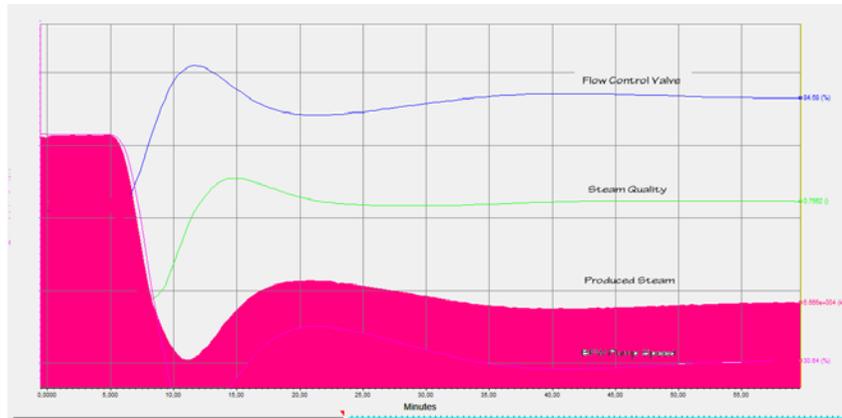
Propose Strategy response





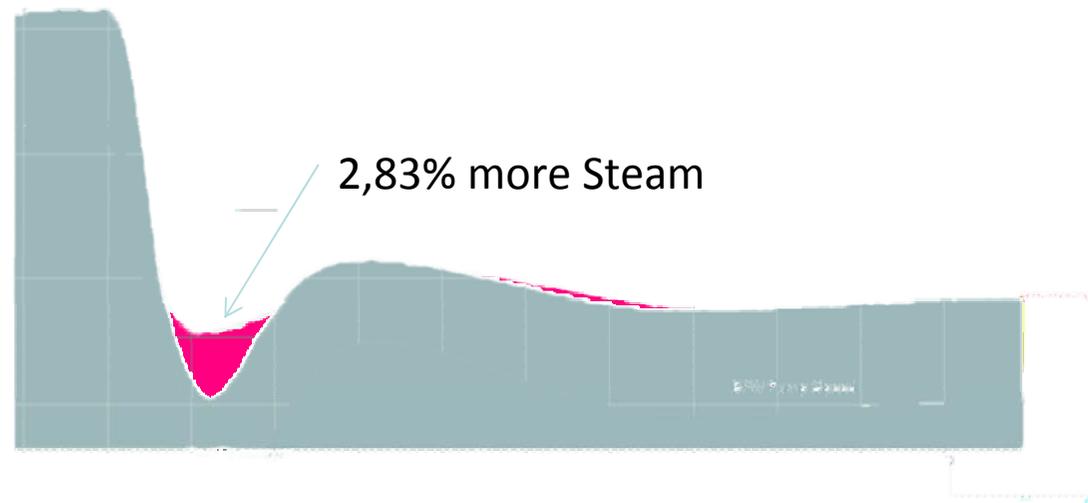
Actual Control Response

Propose Strategy response



Conclusion

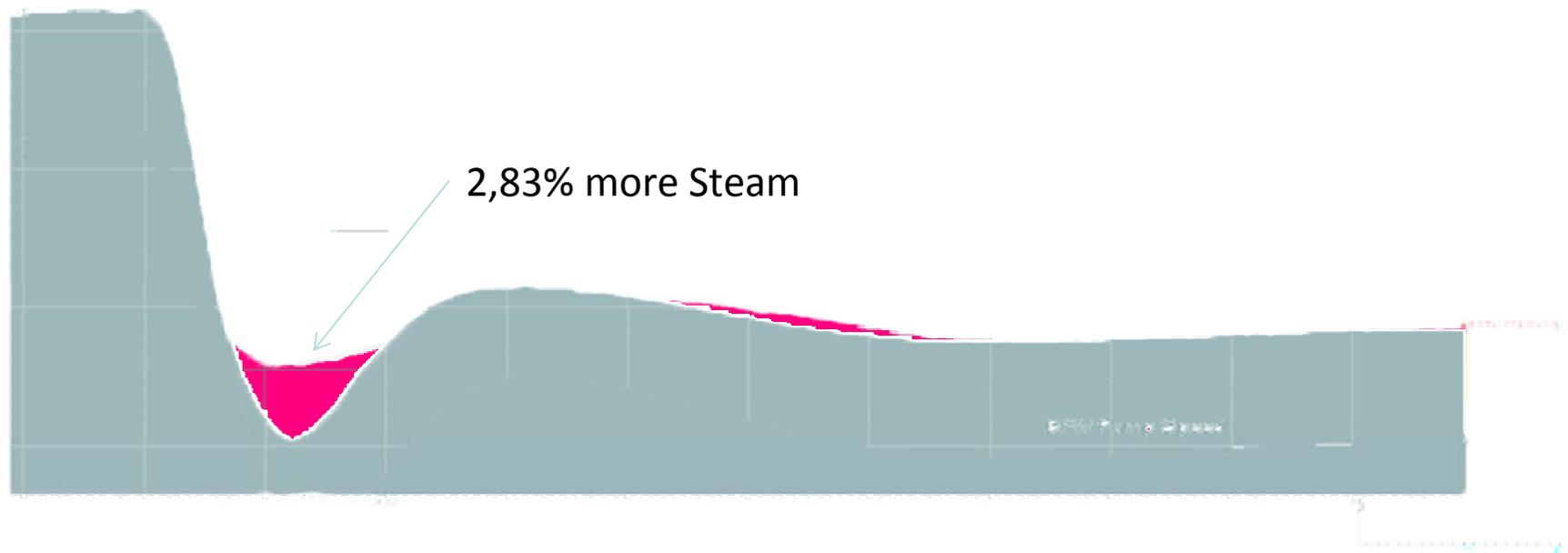
- It is possible to damper the valleys without Capital Investment





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Industrial

Steam Produced



Steam Produced

