



Università degli studi di Firenze
Facoltà di Ingegneria

Trend analysis for Power Plant Components

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General and purpose

- Power plants Components will be analyzed in order to discover their trends by some Inventive Principles.
- Principals Inventive ways will be individuated and a possible solution will be supposed.
- This project it is based on Triz methodology and it's inventive principles, individuated by the experience and most important companies know how.
- Creax software has been used to test solutions supposed.

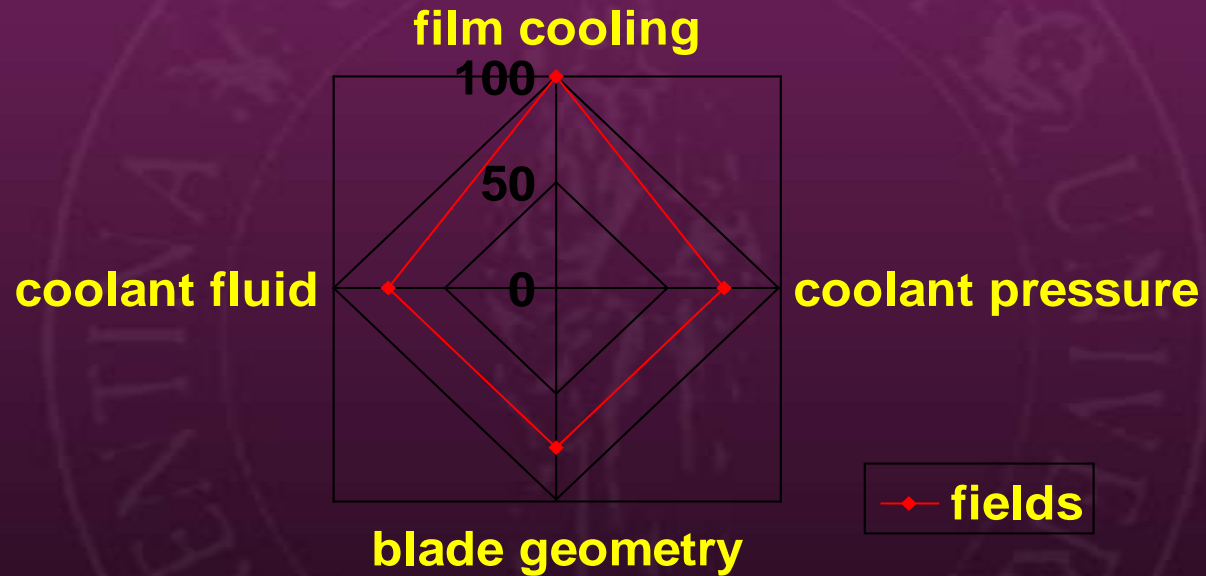
TRIZ Metodology

Gas turbines blades cooling system



Trend analysis for Power Plant Components

Gas turbines blades cooling system



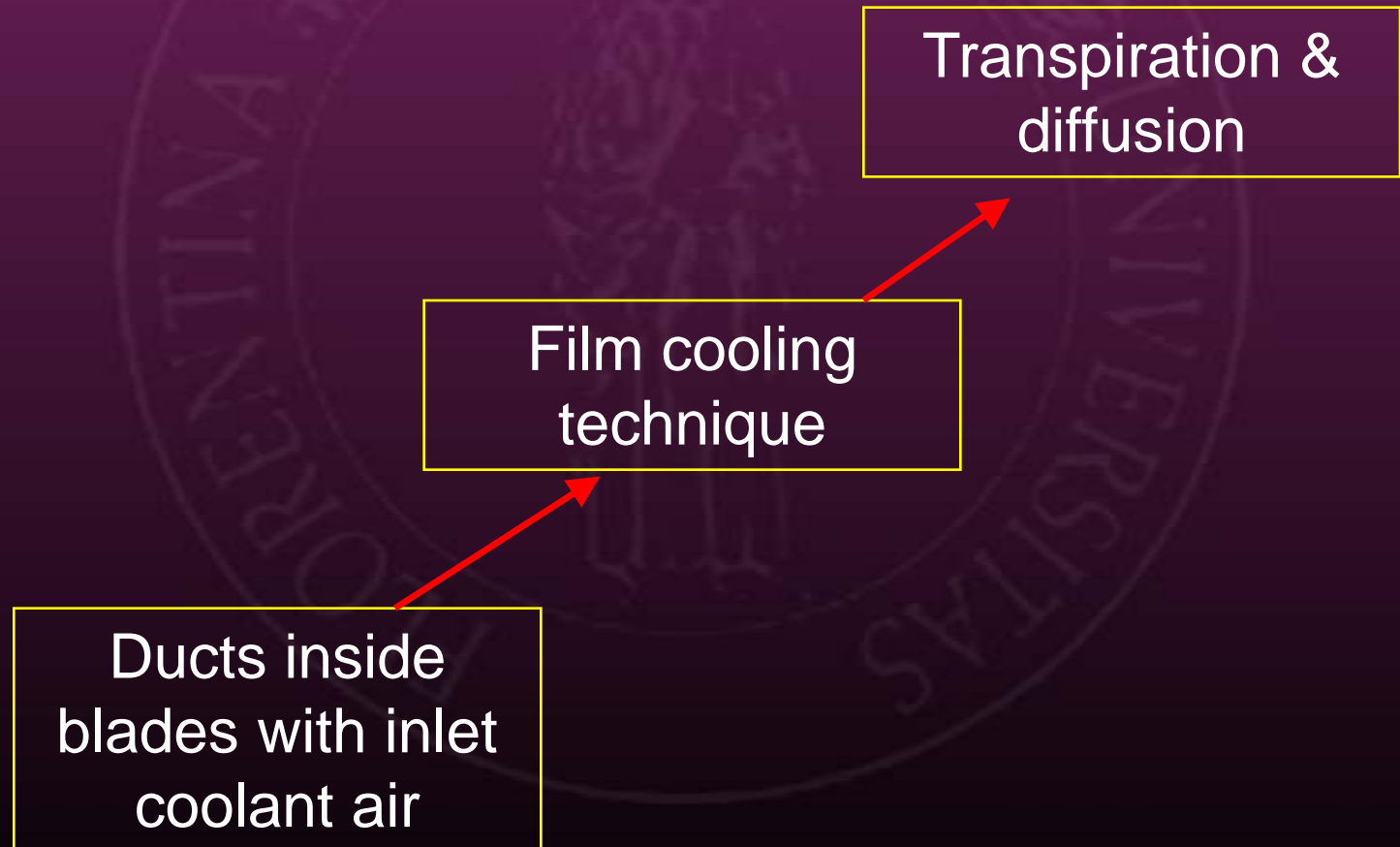
Most important competitors: General Electric
Rolls Royce
Pratt Whitney





Gas turbines blades cooling system

Increase the power improving cooler

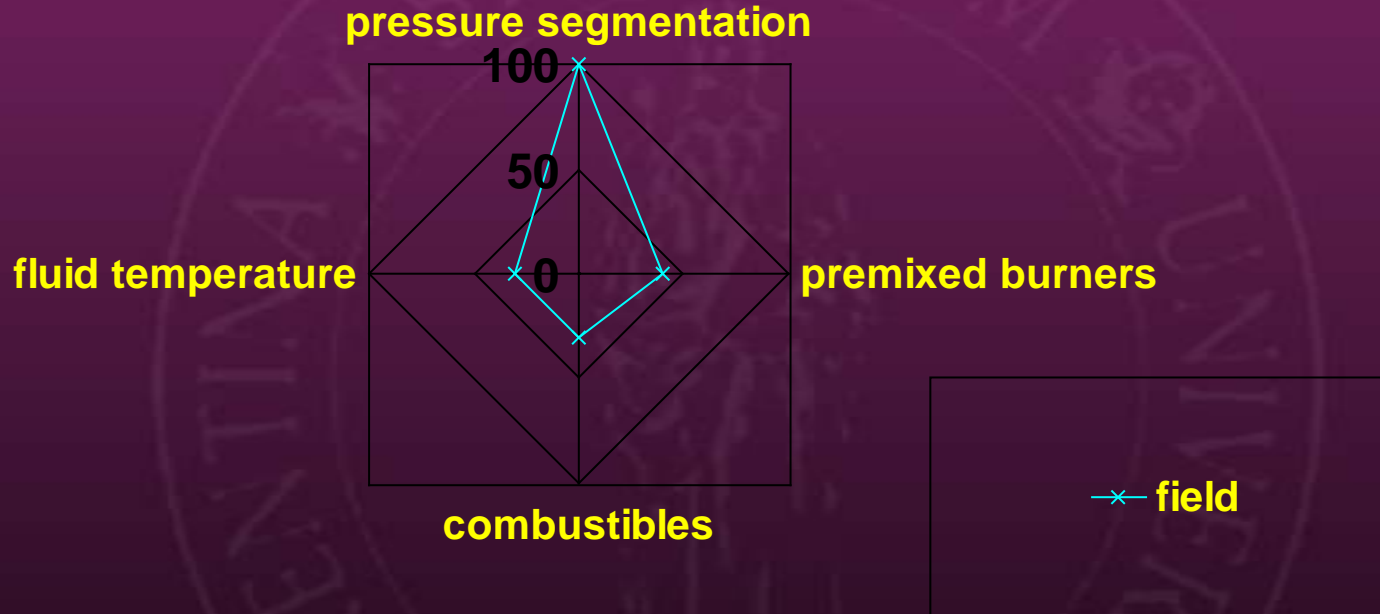


Pressure levels segmentation in Steam Generators





Pressure levels segmentation in Steam Generators

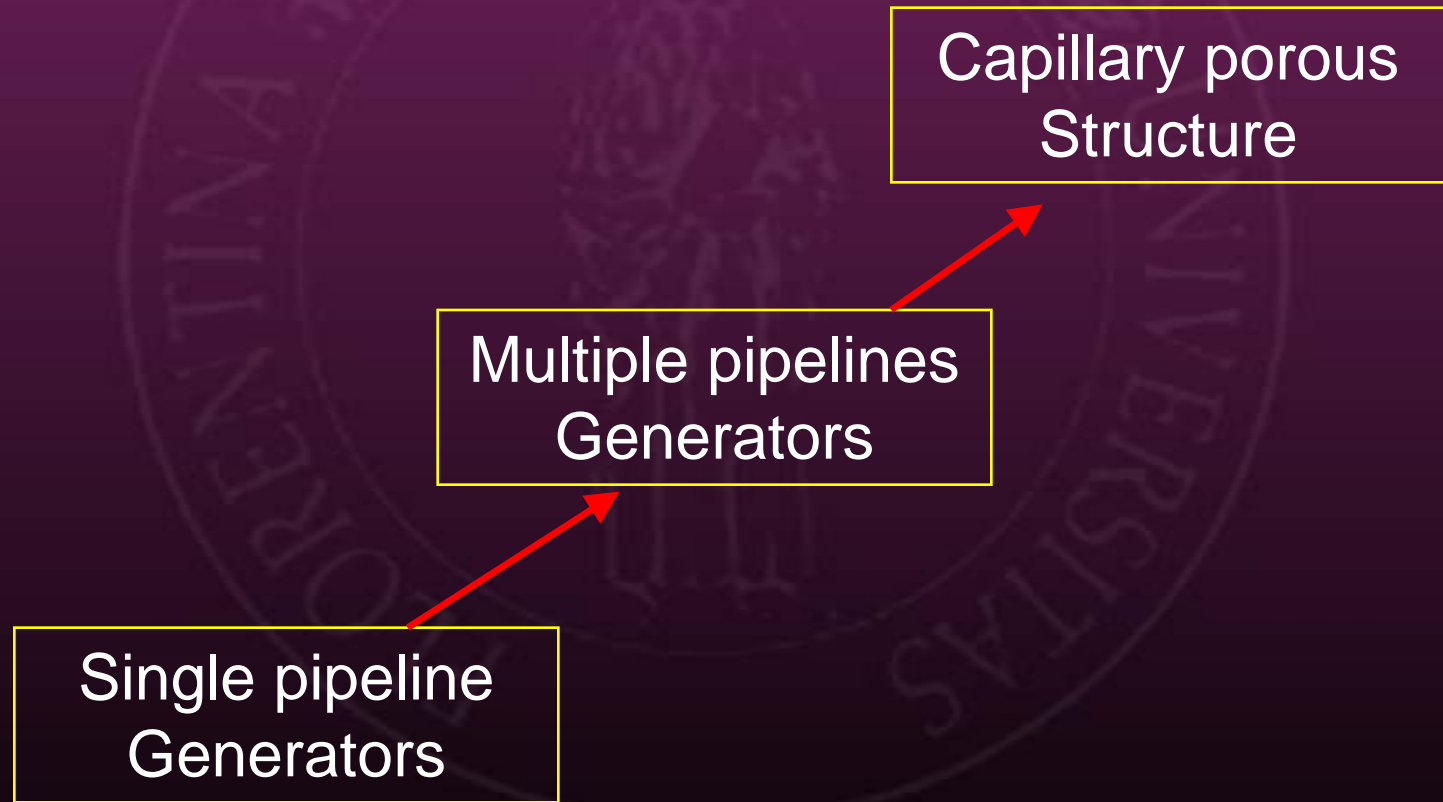


Most important competitors: General Electric
Babcock Wilcox
Ruth



Pressure levels segmentation in Steam Generators

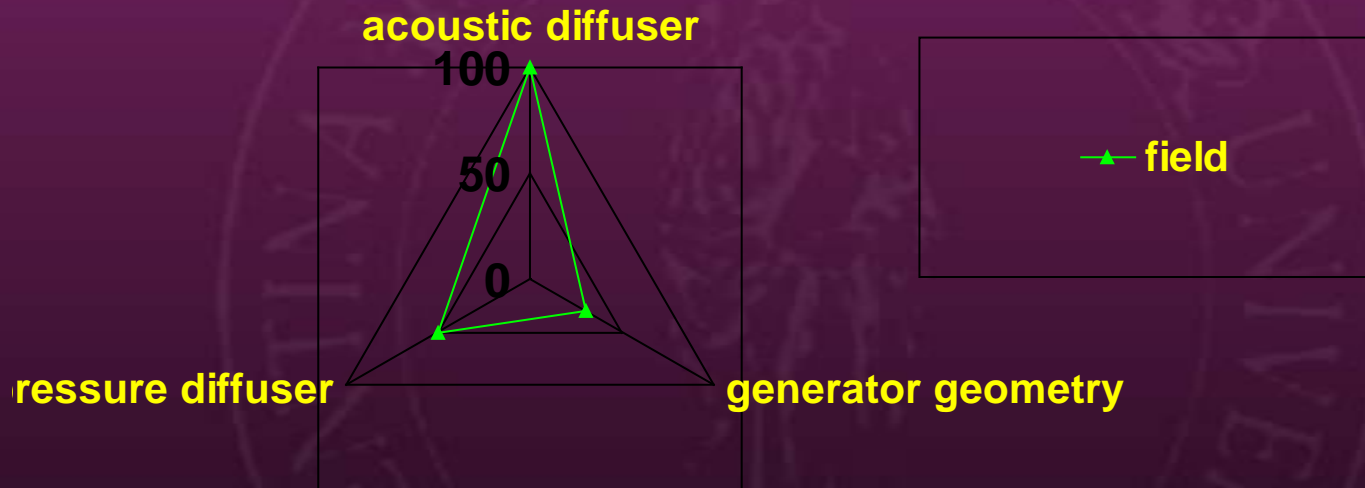
Reduce exergetical losses due to transition of heat exchange coefficient in water phase change



Discharge Diffuser between Gas Turbine & Steam recovery Generator



Discharge Diffuser between Gas Turbine & Steam recovery Generator



Most important competitors: ABB Alstom
General Electric
Siemens





Discharge Diffuser between Gas Turbine & Steam recovery Generator

Reduce losses at gas turbine discharge side

