EUROPEAN
TURBINE
NETWORK

VIRTUAL TESTING

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Vision

Virtual Testing Project already presented to ETN members by Prof. Sayma

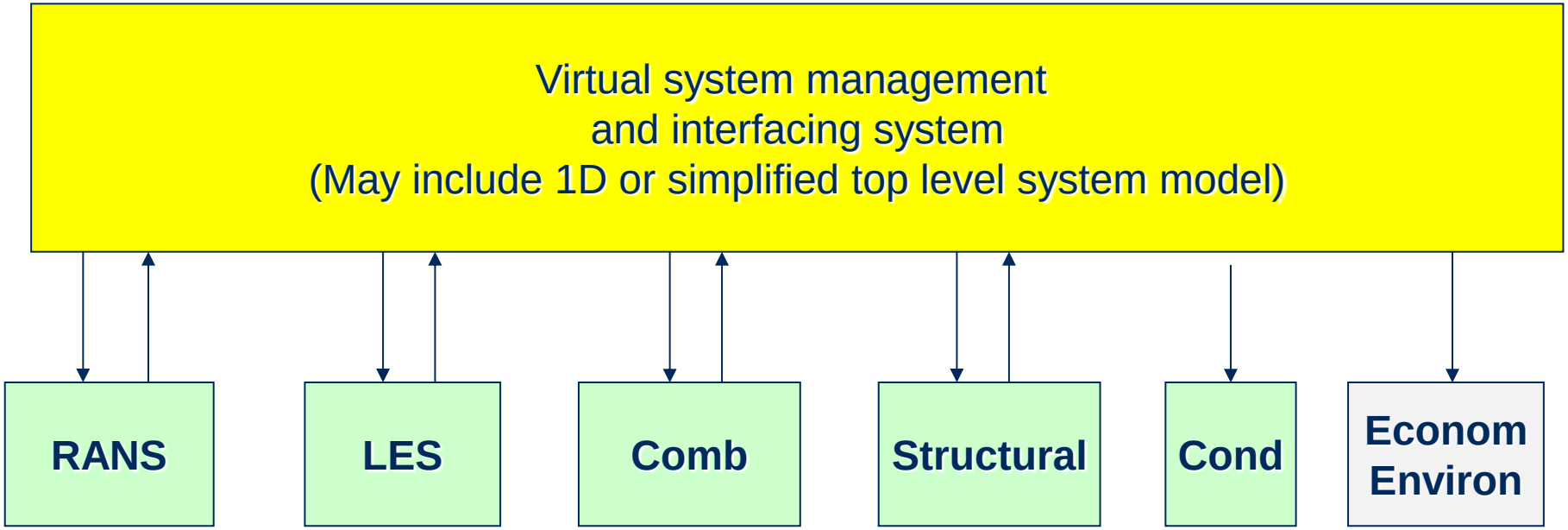
- To develop a gas-turbine virtual testing environment which should enable:
  - Complete test of a machine with varying degree of modelling fidelity for various components according to needs
  - Primarily flow and heat transfer features, but other features such as structural can be progressively included in the model

Synergies and added value

Partners would benefit from:

- Reduced rig and engine tests during the design cycle (OEMs)
- Post design and in-operation investigation of problems (OEMs/Users)
- Investigation of operational issues (Users)
- General research and development (R&D institutions)

Proposed layout



Areas of R&D

The following issues are envisaged:

- Industrial partners though to be interested in using existing validated models
- R&D required to build the top level system to manage the Virtual Testing environment
- This requires standardising interfaces and data structures, managing data transfers, computer load balancing...
- Validation mandatory

Status

So far:

- A few academic members already interested: Hoenen, Sayma, Pilidis, Sánchez

What now?

- The Project Board has awarded a small amount of money to take further actions
- A master student will investigate:
  - Similar projects and initiatives already completed or under development
  - Funding opportunities in Horizon 2020
- More members required to conform a competitive proposal → diversification Industry / Users

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