

# Science & Technology B.V.

## ITER-PHM: Avoiding unnecessary shut-downs

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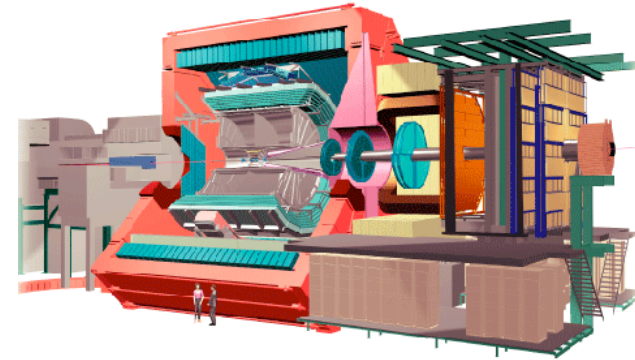
# What is our project about...

- ITER -- PHM  
*Prognostic Health Management*
- Best explained with a similar experiment:
  - Large Hydron Collider



# The LHC

- LHC is in many respects very similar to ITER
  - Total costs: \$6.6 bn
  - Complex system
  - Forefront of scientific advancement
  - Lifetime 20 years
  - After successful start-up:
    - Small fault (probably electrical connection) causes downtime of months



## ***Cost downtime:***

*Duration downtime  $\approx$  1% of life-time*

*Cost downtime  $\approx$ ?  $\approx$  1% of total costs*

*ITER-PHM: Try to avoid the down-time*

# The ITER-PHM project

- Apply S&T's experience in PHM in other domains to ITER
- Experience:
  - Space: Earth Observation, rocket engines, LOFAR, ASML, harbor cranes
- Project:
  - Define Requirements & Design
  - Test ideas
  - Increase ITER-experience

