STREAM0D
ZERO DEFECT MANUFACTURING SOLUTION

**SIMULATION
IN REAL TIME FOR
MANUFACTURING WITH
ZERO DEFECTS**

www.stream-0d.eu

OBJECTIVE OF THE PROJECT

The main objective of STREAM-0D is to allow industries to **adjust the manufacturing processes in real time**, introducing smart decisions based on the forecast of multi-physics simulation models.
Through an innovative control system industries will monitor production processes of large-volume components in real time, reducing the product variability, increasing the line flexibility, and achieving zero defect production.

HOW IT WORKS

Reduced Order Modelling is a new generation of techniques which are able to predict the product quality indicators in response to critical input parameters.
The models are fed with actual data from online measurements: based on the model prediction, they allow workers to control the critical steps of the line so to adjust the product to the exact design target specifications, or to quickly change specifications for producing customized batches.

GOALS OF STREAM-0D

1. To monitor and adjust the production process in real-time, achieving zero defects in the final product.

2. To decrease the time needed for the adjustment and ramp-up of the production line and the fabrication process parameters for new designs by at least 30%.

3. To increase the efficiency of the line by achieving at least a 10% reduction in rejected units and material.

4. To reduce production costs by at least 15% and increase production rates by at least 15%.

5. To demonstrate these model-based control tools on three real process chains, so to reach a pre-marketing stage.

EXAMPLE OF IN-LINE APPLICATION

Reduced Order Models and the initial set of KPIs are used to feed the system. Real Time running ROMs enable operators to adjust key parameters during in-line production

ROMs work with real time data acquisition from the line, and allow for the adaptive control of the process through a simple interface

END-USER PARTNERS

SCIENTIFIC & TECHNICAL PARTNERS