DIMOFAC

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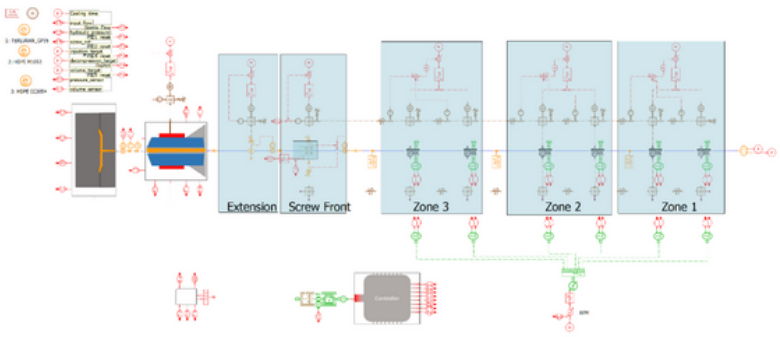
ABOUT SIEMENS

Create a more sustainable future. Join the engineers developing the best possible products using the powerful predictive simulation and test applications of Simcenter.
By combining advanced engineering tools with industry expertise and dedicated support, we empower innovators.



INVOLVEMENT IN DIMOFAC

What is your role in the DIMOFAC project?

In the DIMOFAC project, SIEMENS Digital Industry Software is in charge of digital twining and link between 1D and 3D (from mechanical to non-Newtonian fluids) towards Model-Based Systems Engineering in particular in WP3 through the uses cases proposed by ALBEA and PHILIPS in collaboration with IPC. We focus on levering 1D-3D co-simulation throughout the design cycle to enhance the production lines and to allow users to get a better prediction of how the product performs under everyday use.

What are the knowledge or skills that you bring to DIMOFAC?

SIEMENS Digital Industry Software provide multiphysics simulation software such as Simcenter Amesim for 0D/1D and Star CCM+ for CFD, with a complete integration of fluid dynamics, thermal and mechanical solutions.

What challenges do you have at the moment in DIMOFAC and how are you overcoming them?

Adapt the fluid dynamics component to non-newtonian physics is still a challenge, that will be solved with more investigations and more data to compare with

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Why did you decide to participate in DIMOFAC?

Participating in DIMOFAC for our Siemens department, Simulation & Test Solutions (STS) was a way to model non-newtonian fluid in Simcenter Amesim, integrating a complete Simcenter digital twin workflow of an injection moulding machine with Simcenter SAMCEF and Simcenter Star CCM+ and finally prepare the software to AAS standard.

What are the learnings you have gained from participating in DIMOFAC?

Injection moulding area knowledge was a big benefit for Siemens and help with the development of moulding screw components and non-newtonian fluid physics. The creation of the workflow including AAS standard was also a huge benefit.

What are the benefits that you have/are taking away from this collaboration?

Injection moulding area knowledge was a big benefit for Siemens and help with the development of moulding screw components and non-newtonian fluid physics. The creation of the workflow including AAS standard was also a huge benefit.

How do you see the DIMOFAC innovation in the Manufacturing Industry?

DIMOFAC will improve software connection with the hardware, to reduce machine commissioning with virtual calibration and the virtual sensors based on the digital twin model will improve parts quality and reduce waste.

> **From the shear rate to the AAS with Simcenter Amesim Embrace mechatronic system simulation from complex physics (shear stress) to real hardware connexion (AAS))**