Successful R&I in Europe 14-15 Feb
10th European Networking Event – ZENIT/NRW Düsseldorf

Workshop – Session 4 – 15Feb
Transport

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« Join analytical calculation to numerical simulation of scroll compressors »

Université de Rennes 1 (UR1):

- ✓ 29,000 students (representing 125 nationalities)
- ✓ 3,700 staff members, 22 joint research units associated with national research centers (e.g. Inria, INSERM, CNRS, INRA) and awards over 250 PhD degrees every year.
- ✓ Currently involved in more than 20 H2020 projects, has been involved in 43 FP7 projects, and in numerous other European initiatives such as the ***EIT Digital*** and ***Erasmus Mundus Master Courses.***
- ✓ Research at UR1 is organized along four major domains, corresponding to four graduate schools: Mathematics & ICT, Life Sciences, Materials Science, and Humanities & Social Sciences.

The Institut de Physique de Rennes is a joint CNRS-Université de Rennes-1 research unit divided in 6 department and covering several areas of physics. It hosts 86 researchers for a total of 183 staff members. It publishes about 120 articles a year and awards around 15 PhDs every year.

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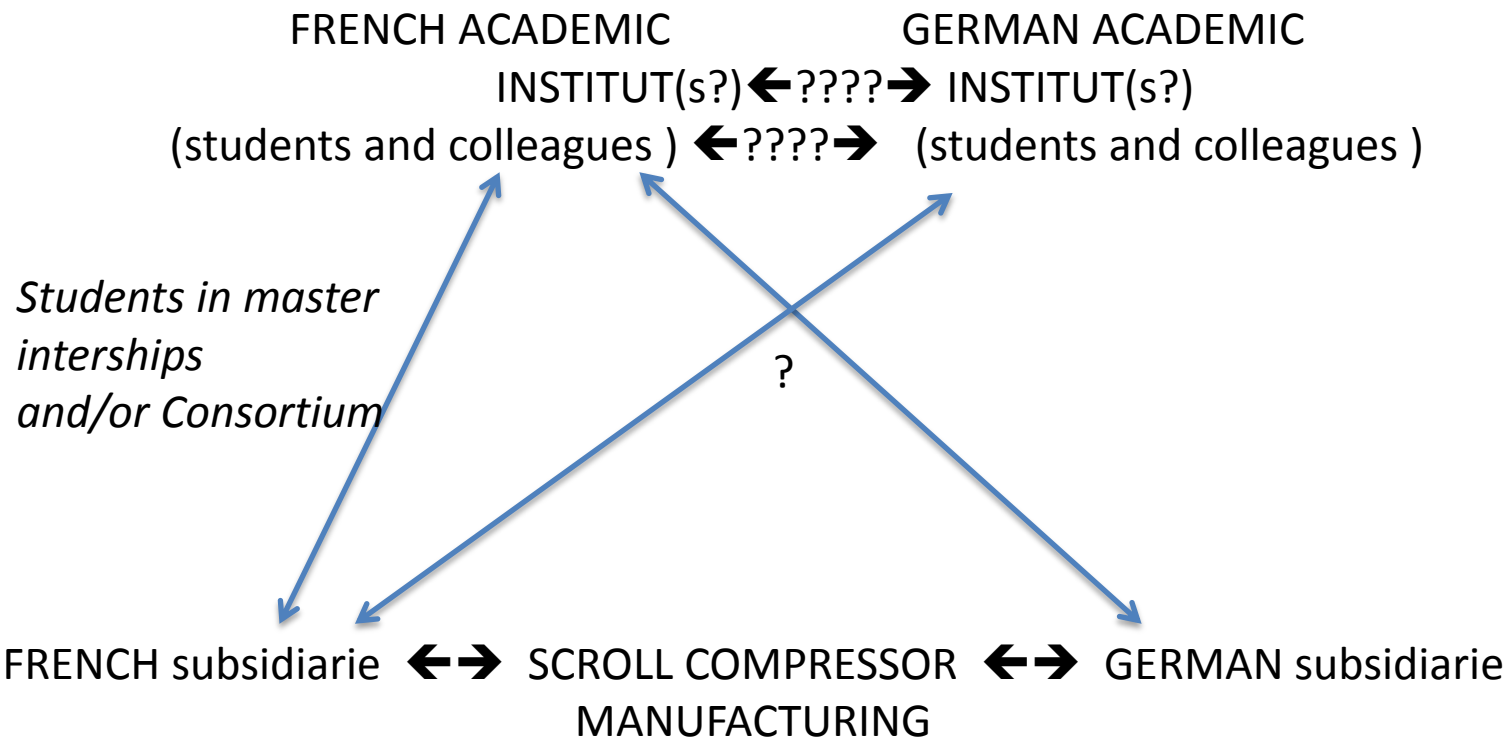

Here, only academic questions!

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Studies related to Scroll Compressors involve a lot of numerical calculus dealing with

- thermomechanics of fluids and solids
- optimization of the forming and behavior of the manufactured scrolls.

Our approach is to developp our ability to do analytical or semi-analytical calculus to improve the numerical routines well used in the codes (but, may be, with some warnings): we have to deal with complicated geometries and thermodynamics laws encountered in various studies of scroll compressors.

So, assist and improve if possible pre-existing models used in simulation-codes ask bridges between the manufacturer and academics (university, institut…) in various forms (for example beginning with multisite master-training of students , then PHD Thesis and consortium…)

Partners sought:

Teams with speciality in fluids mechanics for such flows and allowed manufacturer with the wish to complement some modeling steps via the use of analytics.

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