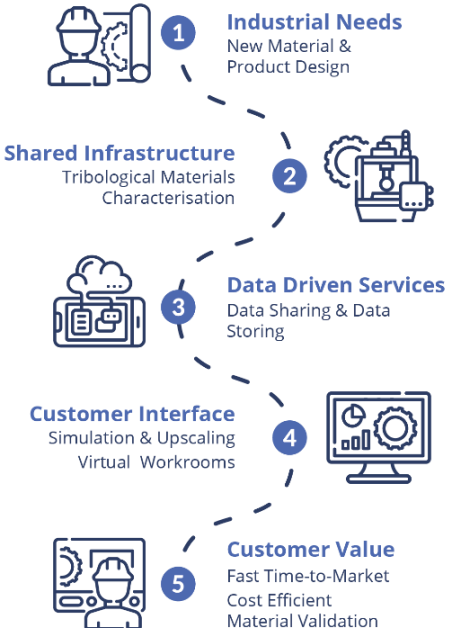
i-TRIBOMAT
Intelligent Open Test Bed for Materials Tribological Characterisation Services



THE EUROPEAN TRIBOLOGY CENTER

About the Project for Translators Expression of Interest

European Commission | This project has received funding from the European Union's **Horizon 2020** research and innovation programme (innovation action) under grant agreement No. 814494 (Call: H2020-NMBP-TO-IND-2018)

i-TRIBOMAT – THE EUROPEAN TRIBOLOGY CENTER

Predicting the efficiency, lifetime and performance of **moving** components requires knowledge of material and above all tribological system properties (like friction and wear). To evaluate new materials in terms of their performance (in a component under operation), the development of new innovative methods is necessary. These methods can also be summarized under the term “lab-to-field” or “materials” - up-scaling. This means that materials are characterised in the laboratory and their properties are up-scaled to the component performance by means such as simulation.

i-TRIBOMAT is a project funded in the EU Horizon 2020 framework program **with the aim of building an Open Innovation Test Bed for tribological material characterization and offering corresponding services from the tribological characterization of new materials to simulation models for predicting the performance of industrial components.**

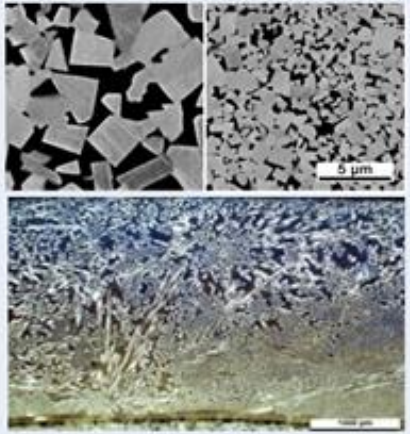
By bundling the infrastructure and the know-how for characterization, and building a digital platform and material database, i-TRIBOMAT becomes the **world's largest open innovation test bed for tribological material characterization and up-scaling.**

i-TRIBOMAT **fosters European Industrial Innovation by accelerating the development process of new materials and components.**

i-TRIBOMAT – THE EUROPEAN TRIBOLOGY CENTER

- The world's largest provider of tribological material characterization and materials up-scaling services
  - More than 100 tribometers and additional advanced characterization methods
  - More then 250 experts
- Trusted characterisation and qualification of materials by reliable standardised testing procedures
  - i-TRIBOMAT guarantees highest accuracy, repeatability and interoperability
- Database with over 10.000 tribological material characterization datasets
  - Coefficient of friction, wear etc.
  - Daily growing
- Prediction of product performance via Virtual Workrooms
  - Easy to use Lab-to-field materials up-scaling and simulation tools

MOTIVATION



new materials
steel, alloys, polymers, coatings, lubricants

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Materials Characterisation

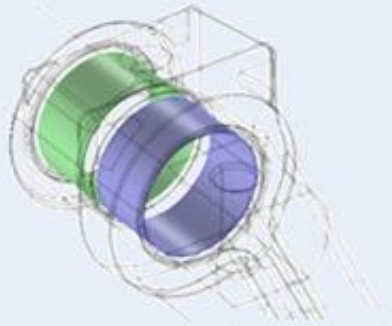
Tribological

Functionality → Reliability → Maintainability → Recyclability

Performance

Innovative Industrial Applications

can a material be applied in a industrial system?

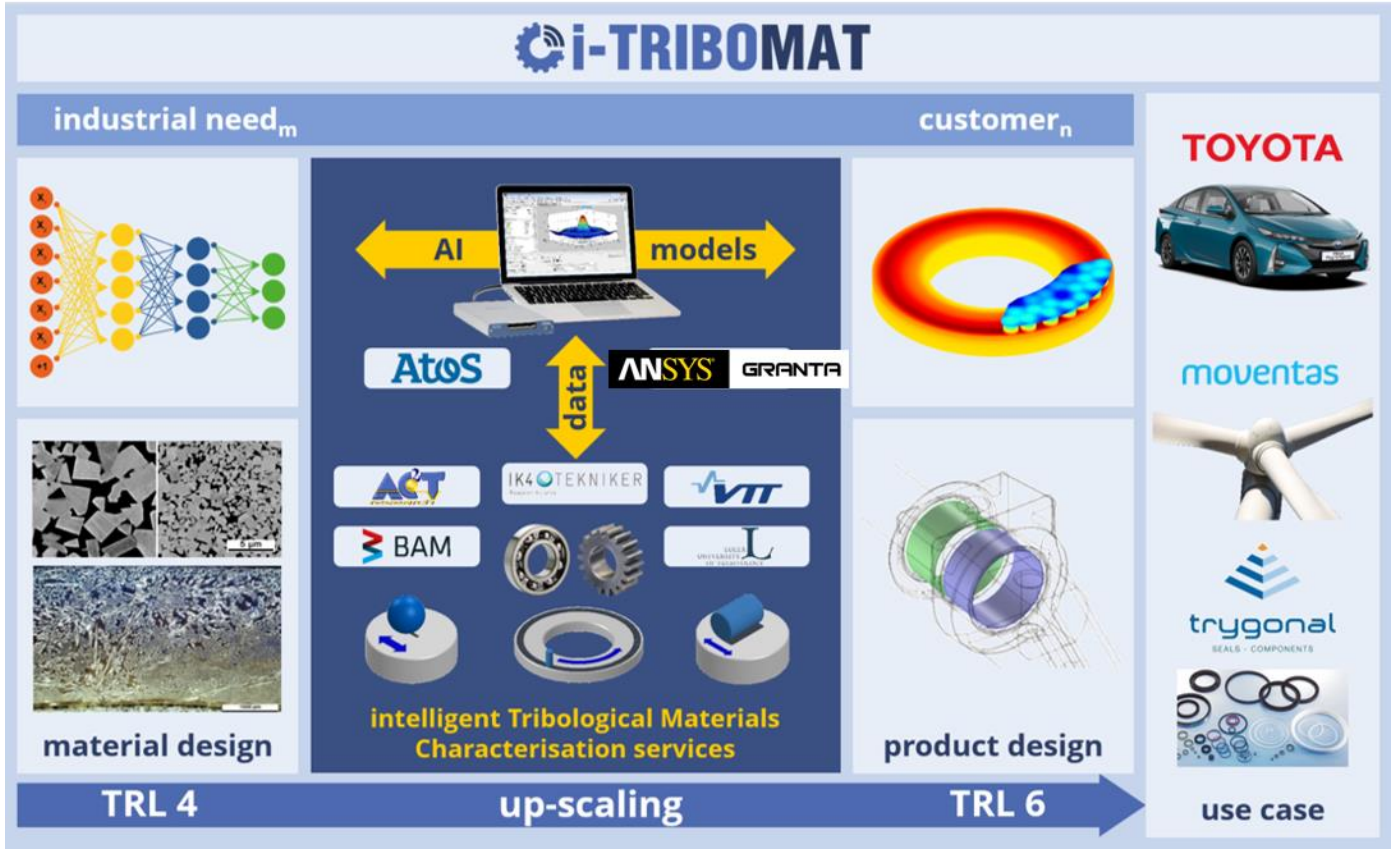


product design
sectors: energy, transport, manufacturing...

Industrial Motivation → Materials up-scaling

Reduction of time to market & reduction of costs

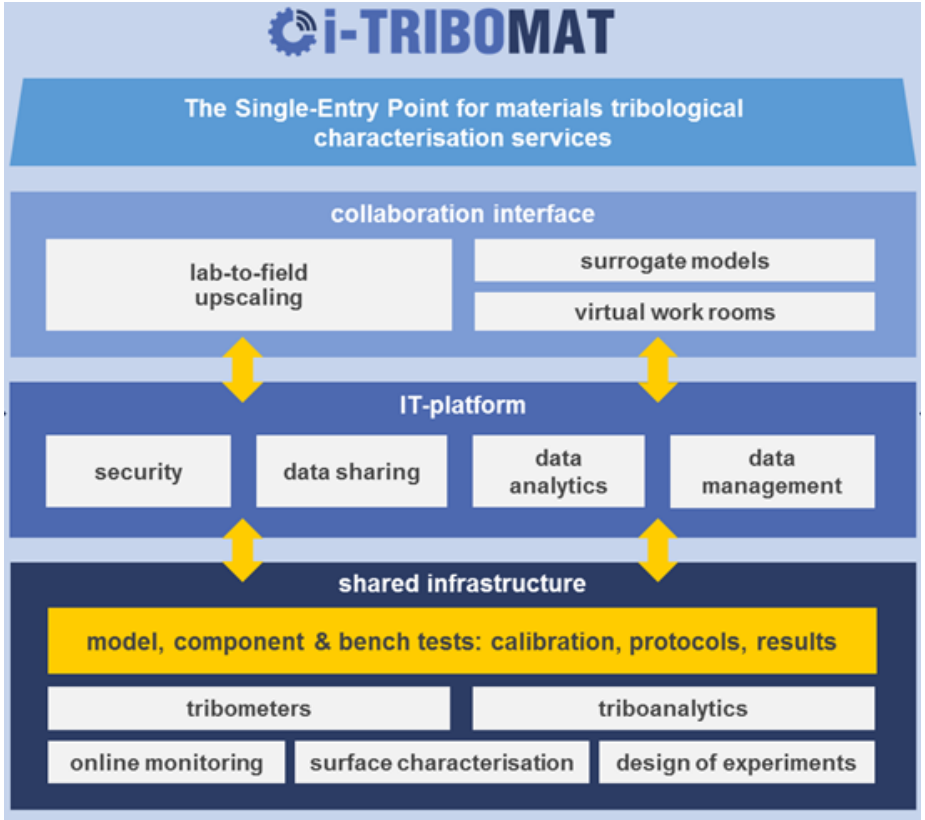
OVERALL APPROACH



MAIN CONCEPT - IMPLEMENTATION

4 Interacting Units

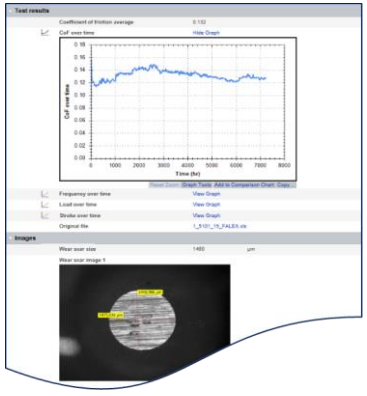
- Shared infrastructure
  Enabling standardised tribological materials characterisation services
- IT-platform
  Data driven services
- Collaboration interface
  Virtual work rooms and lab-to-field upscaling tools
- Single-Entry Point
  Service Provider

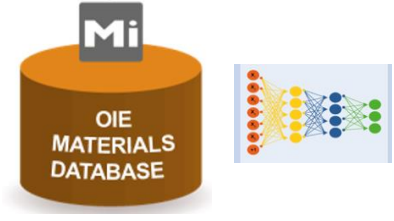


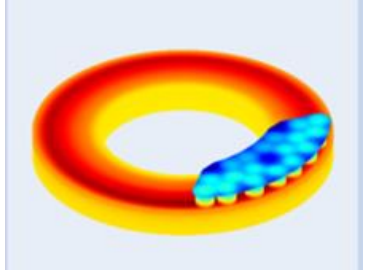
i-TRIBOMAT SERVICES

4 categories of services

- Standardised tribological characterisation services
- Data driven services
- Virtual workrooms and up-scaling &
- Complementary services







COLLABORATION INTERFACE - SERVICES

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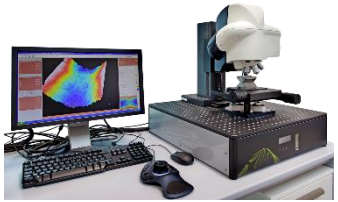
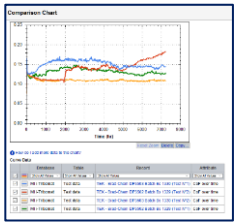
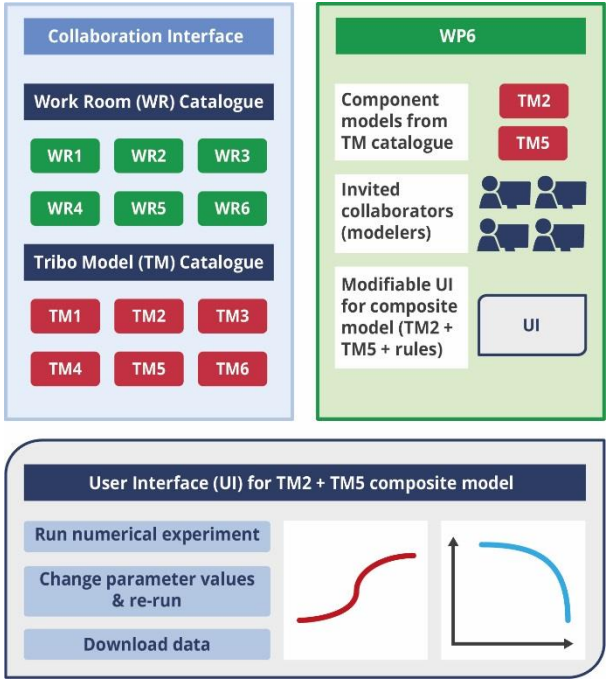
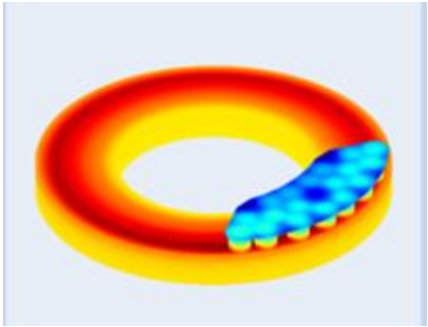
Web based up-scaling services via simulation and modelling









Service 1

Service 2

Service 3

VALIDATION: TRANSLATORS & EARLY ADOPTERS ROLE

Prior to THE EUROPEAN TRIBOLOGY CENTER launch to the market, i-TRIBOMAT project is to test the value proposition and the services defined in the project. To do so, the roles of the Translators and the Early Adopters have been defined.

Translators will act as i-TRIBOMAT ambassadors, explaining to potential customers i-TRIBOMAT unique selling point and which are the different services that the Test Bed offers to the companies with the last aim of in identifying potential customers. For the sake of transparency an Expression of Interest call will be implemented to select the members of this network.

On top of that and to test the services defined, the project will recruit several **Early Adopters** that will play the role of i-TRIBOMAT first customers. These companies will test not only the portfolio of services that the OITB provides, but the SEP, the marketing campaigns, the translators network, the dissemination and the communications activities. As these services are trials and primarily aimed at providing room for services improvement, the costs will not be invoiced to the Early Adopters but covered by the project budget. For the sake of transparency an Open Call mechanism will be implemented to select the companies that will play the Early Adopters role.

SUMMING UP

- ✓i-TRIBOMAT provides the world´s first Open Innovation Test bed dedicated to validating and up-scaling of (new) materials
- ✓i-TRIBOMAT offers new (digital) materials characterisation services
- ✓i-TRIBOMAT sets up a one-stop-shop “The Single Entry Point”
- ✓i-TRIBOMAT validates the value proposition and the services catalogue through the Translators network and the Early Adopters