

Please find hereunder the complete list of challenges/innovation project. If interested in acquiring more details (Company name, extended description of the innovation project, internal state of art, contributions expected) on one or more of them, please write (from your SISSA e-mail account) to tto@sisssa.it (Room 214, Tel: 040 3787551) indicating the reference number.

3)

From electromagnetic stirrers to process control instrumentation, this Italian SME strives to guarantee perfection in continuous casting. An ambitious objective that is achieved through research, innovation, and the capacity to develop specific products for the requirements of every customer. She is interested in the:

Study of the water cooling of electric machines with complex geometry, in detail electromagnetic stirrers (EMS), electric machines for liquid-state metal mixing during the phases of melting, alloying and solidification.

5)

A world leading Company in the field of Oil&Gas, that designs and transforms moving systems with an innovative approach relying on advanced engineering and strong attitude to problem solving. And with an expertise in technology that can be applied to a broad spectrum of market sectors, is interested in the:

Application of computational graphic design on the realization of a machine for the automatic post-chamfer diagnosis;

7)

A leading supplier of high quality machines and services for the casting of copper based alloys, founded in 1959, is interested in:

Optimization of an Innovative 3D printer for metal alloys based on proprietary technology

9)

A Public Water Service Provider with strong roots in the Territory is interested in:

Project for the numerical modelling integration of water pipelines, currently in progress with the Department of Engineering and Architecture at Udine University, regarding the general survey and development of innovative methods for consolidation and optimal upgrading of the water system, through Safety Plans for Water which are currently being drafted with a view to safeguarding the safety of users;

Pilot project to create a visualization system for Irisacqua grids and installations through electronic devices (smartphone, tablet, visor) through augmented reality;

Creation of a single database with data from the company's remote control and telemetry systems (as well as other significant data sources) for the purpose of statistical analysis, reporting failures, maintenance and assessment of efficiency in the system, most notably as regards energy;

11)

A medium size company specialized in the production of corrugated packaging, using advanced machinery for producing corrugated cardboard packaging (American boxes, diecut boxes, hives, displays, angular protections) with a daily production capacity of approximately 600.000 sqm and an employment of 200 people, is interested in:

Optimization of the production system through mathematical modeling

12)

A dynamic and fast growing IT consulting and business intelligence Company is interested in:

Data Health Project

In partnership with Bilimetrix (www.bilimetrix.net/) we are working on a device that measures bilirubin levels in newborns to diagnose neonatal jaundice (https://en.wikipedia.org/wiki/Neonatal_jaundice), a disease that kills thousands of babies in third world countries every year, but, if timely diagnosed, can be easily cured by phototherapy. Several devices already exist and are actively being used in third world countries. We plan to drastically expand their number by involving even more countries worldwide, and to start analyzing the collected data to make the diagnosis process easier and more accurate. After this phase is well established, we are already preparing the migration of the data analysis process to HPC. We would like students to provide ideas as how to improve the device itself and the data collection process.

14)

A technology enterprise with a social vocation that for 30 years it has been designing and managing online services in the socio-health sector, for public and private clients, is interested in:

The development of new services/interventions/performances/technologies for users who are assisted/could be assisted via Telecare and TeleHealth, using "big data analytics" which should involve defining, listing, collecting, singling out, processing, analysing and interpreting data and information on patients (about 5000 in our Region alone).

15)

One of the Italian main characters in Digital Transformation, a reality with a strong technological vocation and a twenty-year experience on several technological fronts, is interested in:

Following and analyzing the web surfing habit of a kind of reader through various digital products with different characteristics (web sites, native app, professional data bases)

Annex 1 – Innovation Challenges

Adding a layer of artificial intelligence to the content semantic engine, able to extrapolate information, to generate automatically new contents with a collage of preexisting contents

Adding a tool able to provide feedbacks to the editorial staff on product contents or products in process and to the sale network on customers.