



DIMOFAC

PARTNERS

Featuring

NIT
New Infrared
Technologies

ABOUT NIT

NIT is a Spanish SME which core business is manufacturing and commercializing high speed uncooled detectors and systems sensitive in the Medium Wave IR spectral region (MWIR/1-5 microns). At time being NIT is the only company in the World able to manufacture uncooled/low cost MWIR imaging FPAs and systems with extended response from 1 – 5 microns.



The company has two business branches: 1) Sensors and cameras and 2) In line monitoring and control systems of laser based industrial processes. In the first branch, the line of products of the company are self-designed, self-produced single element detectors, linear arrays, focal plane arrays (FPA), imagers, cameras and in line control systems based on them. NIT designs and manufactures customized detectors, sensors and systems (including OEM modules) to adapt its standard products to customer's solutions.



As relevant fact, NIT manufactures the fastest uncooled MWIR cameras of the market able to provide 10 kHz @ 32x32 resolution and 2 kHz @ 128x128 resolutions. NIT imagers are suitable for monitoring in real time/in line dynamics processes to a cost compatible with most industrial requirements. Regarding the second branch, at present time NIT manufactures and commercializes three solutions:

- CLAMIR for in line close loop control of cladding/LMD processes
- I3LasWeld for in line monitoring of industrial laser welding processes
- DISCOVER IR suite for in line QA of brake disc coating processes using HS-LMD technique.



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INVOLVEMENT IN DIMOFAC

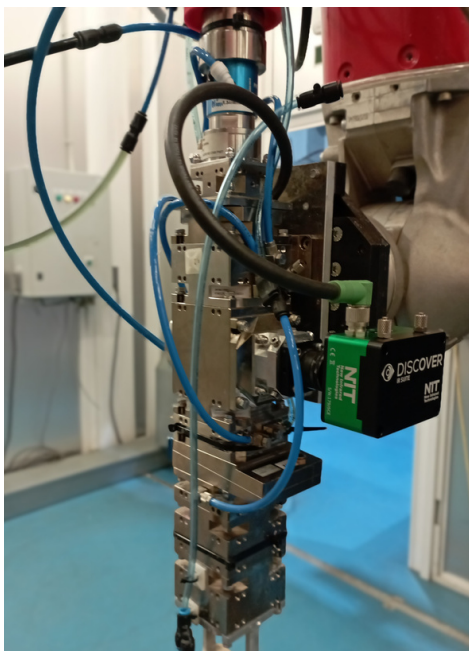
What is your role in the DIMOFAC project?

NIT activities in DIMOFAC will be mainly concentrated in WP 3 “Flexible plug and produce production modules”. NIT will be involved in tasks related with in line process monitoring for improving the flexibility at process level. The activities will include the development of hardware and software, the deployment and testing the modules developed and the validation of process parameters for different type of materials.

NIT will participate in WP1 “Holistic BOL architecture for smart manufacturing”, WP 4 “Digital Twinning of modular production equipment and processes”, WP 5 “Pilot lines integration and demonstrator” and WP 6 “Impact management”.

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

DIMOFAC project aims to establish a pan-European ecosystem of pilot lines of modular manufacturing based on digital threading and digital twinning and featuring a wide range of production plug and produce modules across different industrial domains such as multi material manufacturing, additive manufacturing, and flexible assembly lines.



The knowledge and skills of NIT in DIMOFAC project were mainly focused in developing sensors for reconfigurable plug and play modules. NIT, as manufacturer of infrared sensors, high speed cameras and systems for in line monitoring and controlling different type of processes in the industrial domains bring to DIMOFAC.

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

The participation of NIT in DIMOFAC project has been of extraordinary importance for the company. Industry is looking for automation. The development of better sensors is an important part of the process and DIMOFAC teaches NIT the enormous relevance of a proper integration of different type of sensors in plug and produce modules.



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

Main challenges are related with the integration of NIT sensors in plug and produce modules. Protocols, physical connections etc. of several sensors in a common module is a challenge for the technical point of view. We are advancing in the adaptation and integration of NIT sensors to plug and produce modules adopting industrial standards for our products.

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

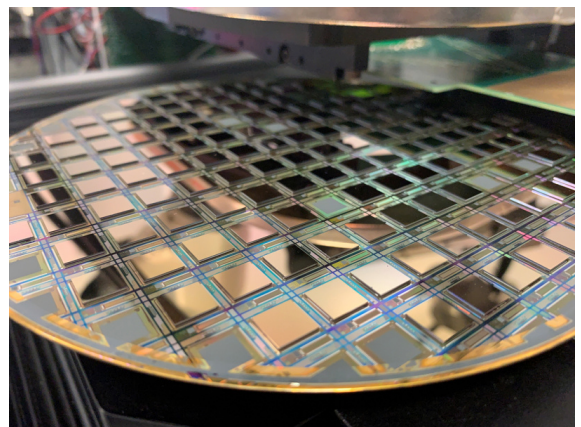
Modular manufacturing requires suitable sensors integrated in plug and produce modules. DIMOFAC gives NIT the opportunity of advancing in this area of knowledge. The network of European companies and institutions created in DIMOFAC is of big interest for a company as NIT which main activities and business are focused in providing technology and sensors for a wide number of industrial applications

Why did you decide to participate in DIMOFAC?

DIMOFAC is a great opportunity for companies as NIT which main business is focused to develop and manufacture sensors for monitoring and controlling in real time industrial processes.

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

DIMOFAC outcomes are of key importance in the process of fully industrial automation. Projects as DIMOFAC are necessary for advancing in this strategic goal for Europe.



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Very interesting and extremely useful. 10

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