



POLITECNICO
DI TORINO

IAM
Integrated Additive
Manufacturing@Polito



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DI TORINO

Politecnico di Torino & Additive Manufacturing

PAOLO FINO

Professor at Politecnico di Torino, Department of Applied Science and Technology (DISAT)
Senior Scientist of Center for Space Human Robotics (CSHR)– Istituto Italiano di Tecnologia (IIT)

Elisa Ambrosio, Massimo Lorusso, Diego Manfredi – IIT@Polito

Sara Biamino, Mariangela Lombardi, Matteo Pavese, Daniele Ugues – @DISAT.Polito.it

Luca Iuliano, Eleonora Atzeni, Paolo Minetola, Alessandro Salmi, Flaviana Calignano – @DIGEP.Polito.it



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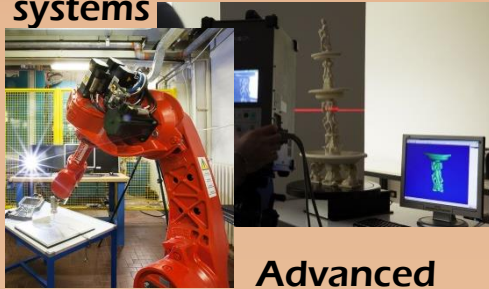
Additive Manufacturing @ POLITO



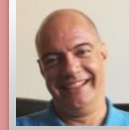
Prof. Luca Iuliano
Full Professor

AMTech
Research Group
Politecnico di Torino
Department of Management and Production Engineering

CAD/CAE/CAM and 3D scanning systems



Advanced CNC machining and additive manufacturing



Prof. Paolo Fino
Full Professor

Material Science and Technology



Politecnico di Torino
Applied Science and Technology Department



In collaboration with Istituto Italiano di Tecnologia (IIT), in the frame of a partnership with Politecnico di Torino





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Additive Manufacturing @ POLITO



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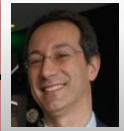
Paolo Fino

Full Professor



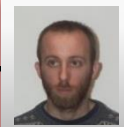
Sara Biamino

Associate Professor



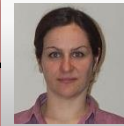
Daniele Ugues

Associate Professor



Matteo Pavese

Associate Professor



Mariangela Lombardi

Associate Professor

Alberta Aversa

Research fellow

Giulio Marchese

Research fellow

Abdollah Saboori

Research fellow

Giorgio Baudana

Research fellow

Federico Bosio

Research fellow

Gloria Basile

PhD student

Emilio Bassini

Research fellow



Istituto Italiano di Tecnologia

Centre for Sustainable Future Technologies CSF@PoliTo



Diego Manfredi

Researcher Technologist



Elisa Paola Ambrosio

Researcher Technologist



Massimo Lorusso

Researcher

Francesco Trevisan

PhD student

Jukka Pakkanen

PhD student

Giulio Cattano

PhD student

Simone Parizia

PhD student



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Luca Iuliano

Full Professor



Paolo Minetola

Associate Professor



Eleonora Atzeni

Associate Professor



Alessandro Salmi

Assistant Professor



Flaviana Calignano

Research fellow

Manuela Galati

Research fellow

Alessandro Ciano

PhD student

Gabriele Piscopo

PhD student

Politecnico di Torino

Department of Applied Science and Technology

Politecnico di Torino

Department of Management and Production Engineering



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Additive Manufacturing @ POLITO



ISTITUTO ITALIANO DI TECNOLOGIA
CENTER FOR SPACE HUMAN ROBOTICS

Polito @ Tecnognada Spa



M250 EOS



M270 EOS

DED



EBM - TiAl Intermetallics



Partnership AVIO – Polito
Regional research project

Blow Powder Tech.
Large components



Partnership Prima Industrie – Polito
European research project



Getready

Cluster

Borealis

Helmet

Additive Manufacturing @ POLITO



PRIMA INDUSTRIE

Avio Aero
A GE Aviation Business

HUB – DIMA Industria 4.0

Getready

Cluster

Borealis

Helmet

4D-Hybrid

STAMP

AMable



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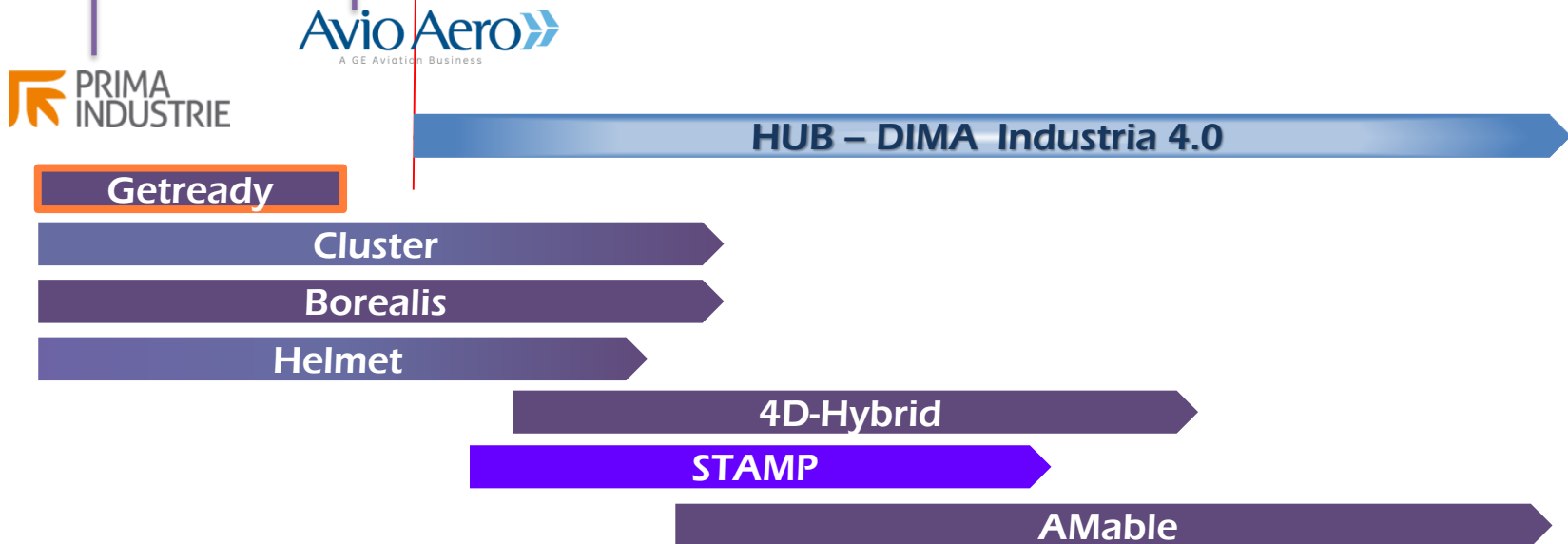


Additive Manufacturing @ POLITO

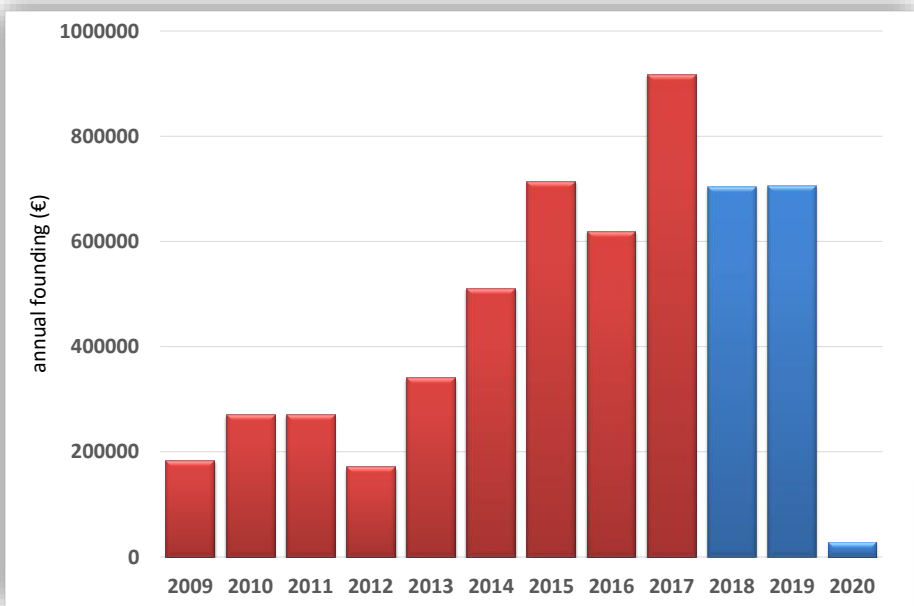
Award from the European Association of Powder Metallurgy as best HIPped component of the year.



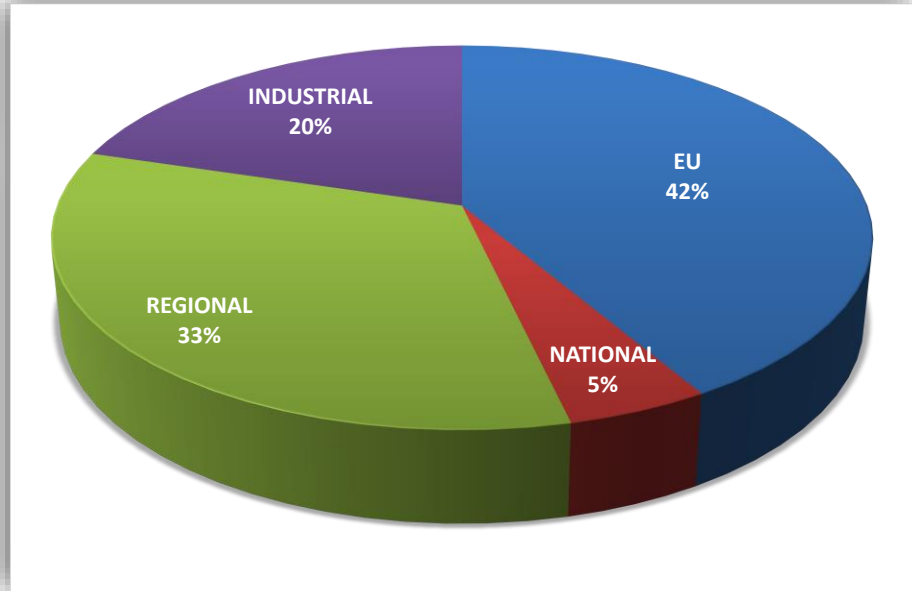
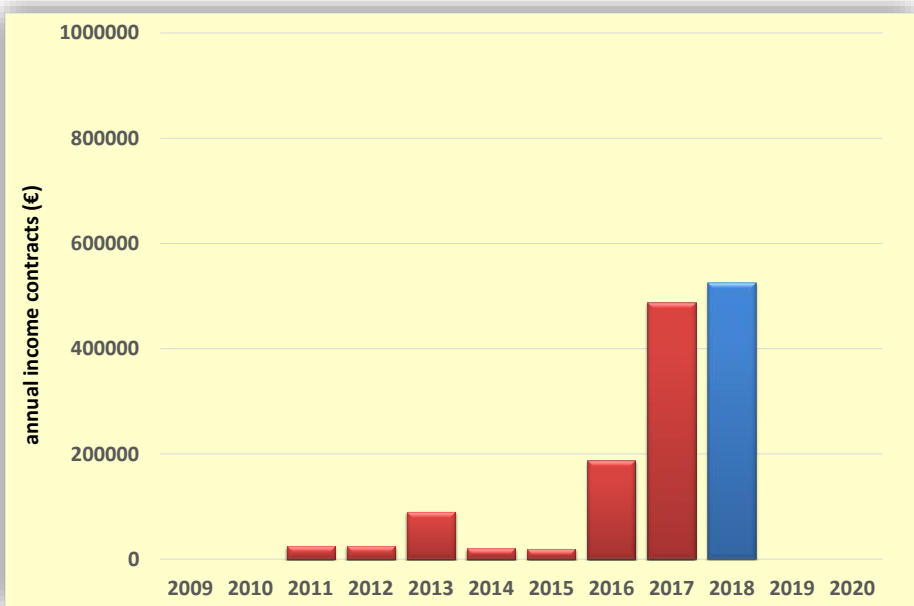
3° prize in the Award for the Best Project from Partners and Consortia of the European programme Clean Sky 1



Additive Manufacturing @ POLITO



External resources 6'814'500 €
Internal resources for facilities 3'000'000 €



IAM@POLITO – future acquisitions

In 2018 and 2019:

2nd year investment

HIP System
Hot Isostatic Pressing



3rd year investment

Gas atomizer
Metal powders production

2nd year investment

CT SCAN
Computer Tomography



In order to complete the supply chain

Powder
production

Design
optimization

Part
production

Post-processing (HIP,
heat treatments,
surface finishing)

characterization



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TAL – joint lab POLITO-AVIO AERO

Avio Aero
@AvioAero

Segui

NEWS: Firmato accordo nascita del Turin Additive Laboratory #TAL tra Avio Aero e @PoliTOnews #AdditiveManufacturing @CarloCalenda



04:00 - 15 feb 2017

TAL combines design and experimentation for innovation, hosting machines which use 3D metal printing technology to combine virtual and experimental HW experience for innovation. These are 3 DMLM (Direct Metal Laser Melting) machines and a brand-new M2 machine by Concept Laser.

Avio Aero and Turin Politecnico decided to open this new research center dedicated to additive manufacturing in order to exploit the business's industrial and engineering competencies, and combine them with the University's expertise in materials and additive technologies research.



<http://www.avioaero.com/eng/Press-releases/AVIO-AERO-and-Italian-Universities-team-up-for-research-the-Technology-Development-Community-model-is-launched>



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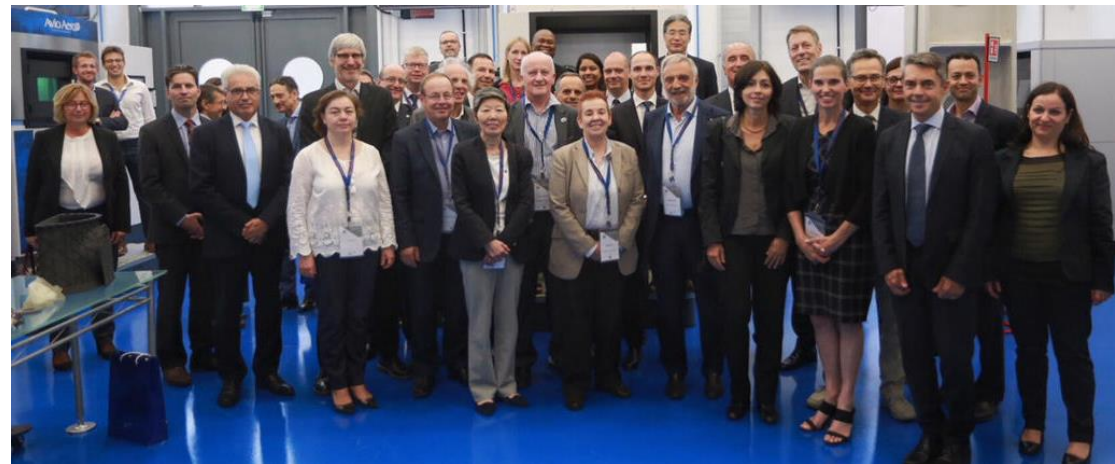
IAM
Integrated Additive
Manufacturing PoliTo

TAL – joint lab POLITO-AVIO AERO



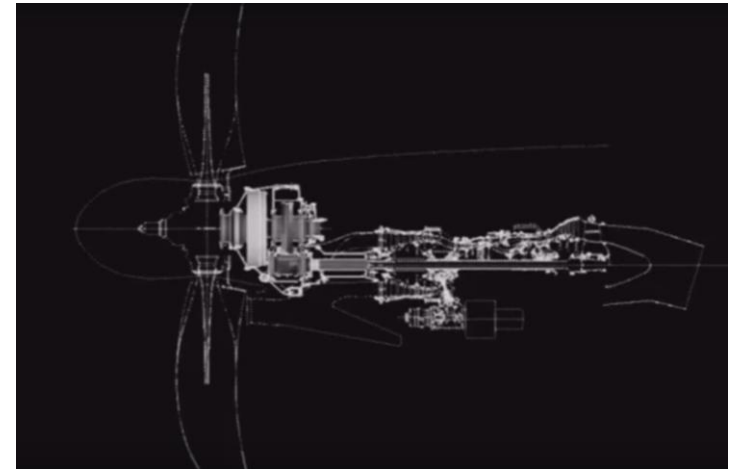
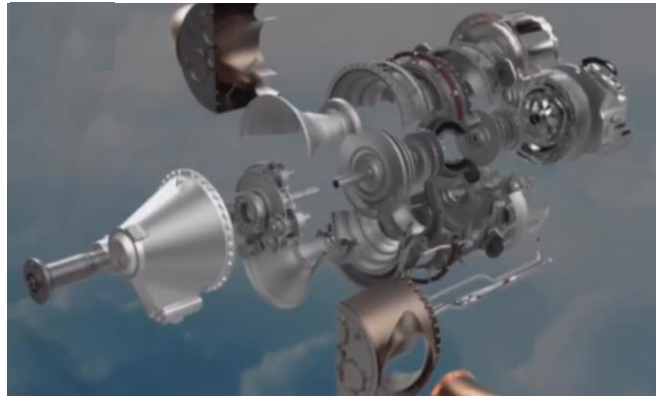
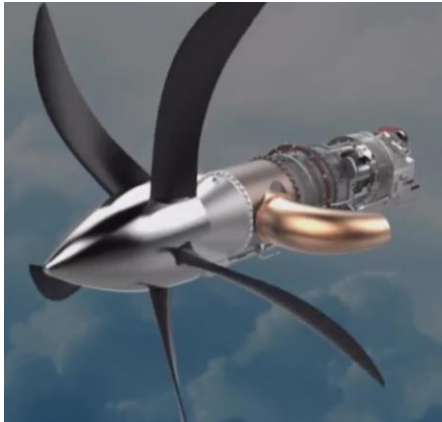
A state-of-the-art model of partnership between university and industry, to share its technological growth with talented young people from the top Italian and European engineering universities.

G7 - Carnegie Meeting
Torino 29/9/2017



TAL – joint lab POLITO-AVIO AERO

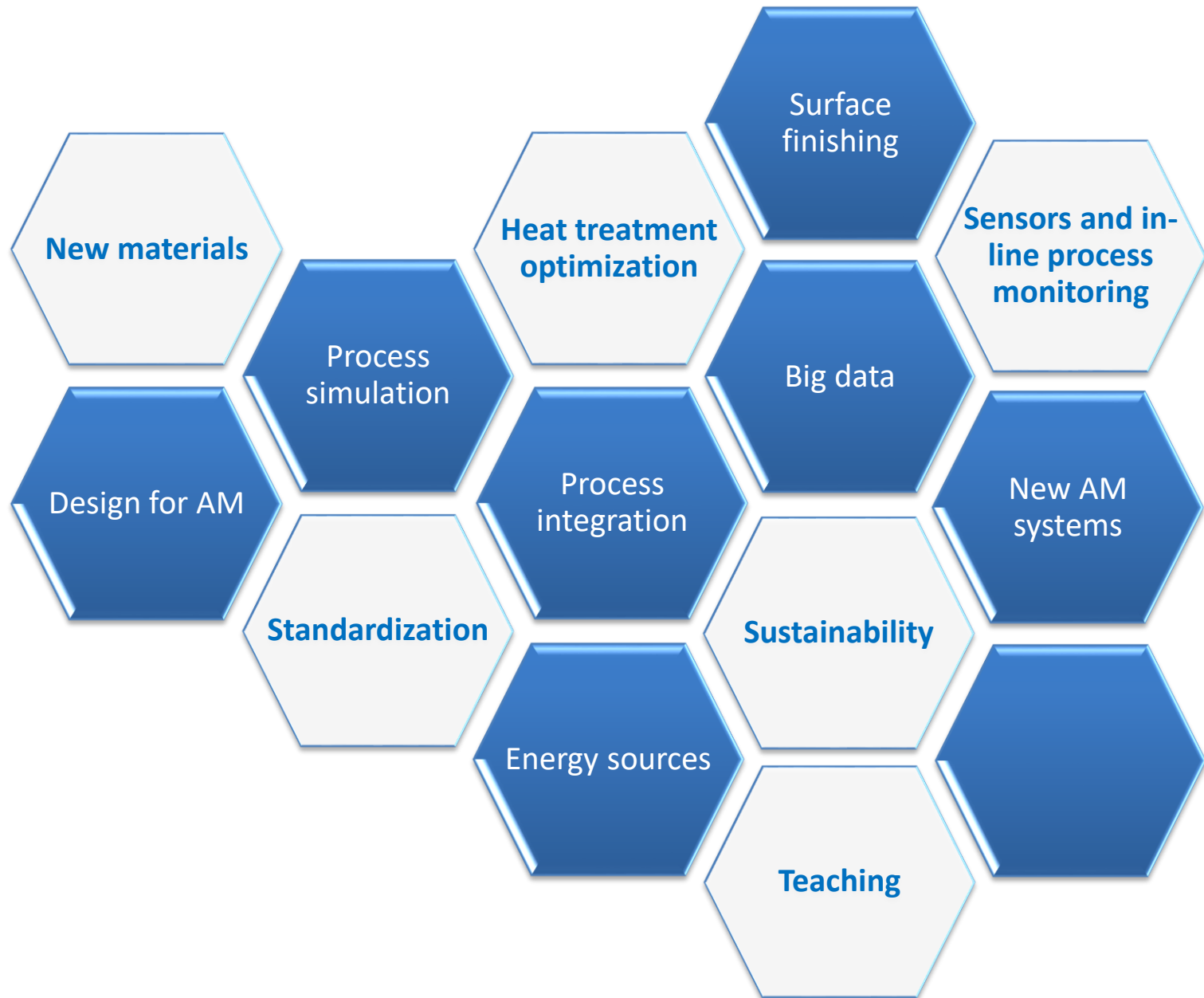
The Turin Additive Lab studies the best technological solutions aimed at producing aviation components for the engines of the future, with lighter weight and ever-higher performance. This also implies an extensive use of prototypes, that are then tested in the top European research projects.



The TAL will work on the optimization of ATP (Advanced TurboProp) components, including the combustor, with the aim of producing a module made entirely by additive manufacturing: a major challenge for the Avio Aero engineers who are designing this module, fundamental for both the TAL and the new technology.



Activities IAM@POLITO



Teaching

Career in AM in the frame of Master of science in Mechanical engineering; specialized courses about:

Design for Additive Manufacturing;

Materials for Additive Manufacturing;

Technologies for Additive Manufacturing

https://didattica.polito.it/pls/portal30/gap.a_mds.espandi2?p_sdu=32&p_cds=37

Specializing master in AM with courses about:

Design,

Materials,

Systems,

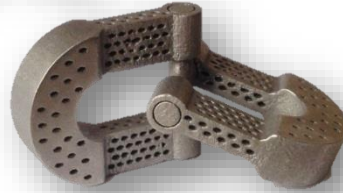
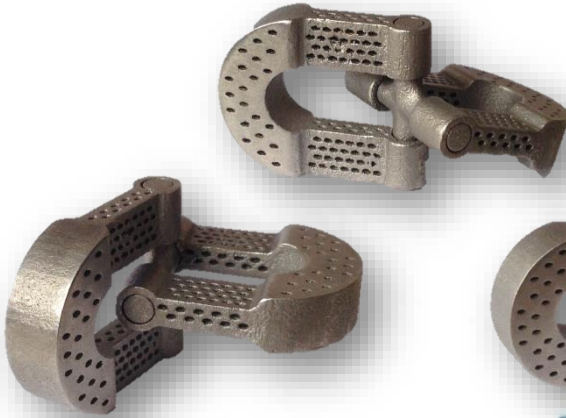
Production management,

Supply chain management, ICT platforms

https://didattica.polito.it/master/additive_manufacturing/2017/introduction



DANKSCHEEN

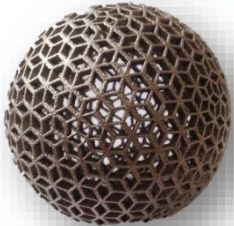


TINGKI
BIYAN
SHUKRIA



GRACIAS
ARIGATO
SHUKURIA
JUSPAXAR
TASHAKKUR ATU
SUKSAMA
EKHMET
YU
YUSPAGABATAM
WADEEJA MAITEKA
HUI
UNALCHIEESH
HATUR GUI
EKOJU
SIKOMO
MAKETTAM
MINMONCHAR
MERCY
BOLZIN
MERCY

SPASSIBO
DANKSCHEEN
SNACHALHUYA
NURUH
CHALTU
YAQHANYELAY
DHIYVABAD
AMMA
ATTO
MERASTAWHY
GAEJTIRU
TAVTAPUCH
MEDAWAGSE
BAUKA
JUSPAXAR
MERASTAWHY
GAEJTIRU
GOZAIMASHITA
EFCHARISTO
AGUYJE
FAKAAUE
KOMAPSUMNIDA
MAAKE
LAH
GRAZIE
MEHRBANI
PALDIES
UNALCHIEESH
HATUR GUI
EKOJU
SIKOMO
MAKETTAM
MINMONCHAR



JUSPAXAR

