2-DAY COURSE

Rapid & High Precision Additive Manufacturing

3D Printing from prototyping to manufacturing across industries

TARGET AUDIENCE

Engineers, R&D directors, technology officers, heads of engineering, project managers, product designers, as well as individuals interested in sharpening their understanding on high-precision additive manufacturing.

A good understanding of manufacturing processes and 3D modelling skills are prerequisites for this course.

The course will be given in English.

Participants should bring their own laptop (on-site installation of a free CAD software is necessary for hands-on experience).

ORGANIZATION

- Laboratory of Applied Photonics Devices (LAPD), School of Engineering (STI), EPFL (Swiss Federal Institute of Technology in Lausanne)

OVERVIEW

From biotechnology to jewelry, and automotive to photonics, the world of additive manufacturing (AM), commonly known as 3D printing, is set to revolutionize countless industries. The advantages? Unparalleled design flexibility, easy product customization, affordable and on-demand low-volume manufacturing, short time to market or even wastage reduction. What can 3D printing bring to your business? What production capabilities does AM unlock? How can you harness the potential of these dynamic and rapidly advancing technologies within your manufacturing processes?

At the forefront of research in AM, EPFL is proposing a 2-day overview of this rapidly emerging field, with real case studies from industry leaders and university laboratories.

OBJECTIVES

- Grasp the transformative potential of additive manufacturing and learn about its latest technological evolution
- Understand high-precision 3D printing technologies in a wide range of materials, including polymers, glass, ceramics, and metals
- Acquire an overview of the additive manufacturing phases – from prototyping to production – and the investment needed
- Discover practical and inspirational applications examples from industry leaders and university research labs
- Immerse yourself in the world of 3D printing through hands-on experience in EPFL laboratories

Monday November 3 to
Tuesday November 4, 2025

From 8.30 am to 6.00 pm

EPFL, Lausanne, Switzerland

Certificate of Attendance

CHF 1300.–

10% special discount for contributing members of EPFL Alumni

On-line registration

Registration deadline :
June 30, 2025

Number of participants is limited

LEARN MORE

TOPICS COVERED

ADDITIVE MANUFACTURING – INTRODUCTION

- 3D Printing : a game changer in industrial processes
- 3D Printing technologies : from research tools to fast and high precision competitive tools
- 3D Printing phases : from prototyping to production

2 PHOTON PRINTING (2 PP)

- Main applications : molds for high precision part replication, including optical precision components
- New materials : glass and ceramics

STEREOLITHOGRAPHY (SLA) & DIGITAL LIGHT PROCESSING (DLP) 3D PRINTING

- Main applications : continuous fast large area printing
- New materials : silicones, glass, ceramics

POWDER BED FUSION 3D PRINTING OF METALS

- Main applications : fast manufacturing of complex metal parts
- Materials : stainless steel, aluminum, titanium, nickel, copper

VOLUMETRIC LAYERLESS PRINTING

- Main applications : ultra high speed printing
- Soft and hard materials

3D INKJET PRINTING

- Main applications : adaptability for fully functional products
- No post-processing required
- Simultaneous co-deposition of various materials

ADDITIVE MANUFACTURING IN PRACTICE

- Industrial application examples : micro-optics, micro-components, biomedical scaffolds, tissue engineering, aerospace, automotive, hydrogen production
- Hands-on experience of 3D printing processes in EPFL laboratories

STEERING COMMITTEE

- **Prof. Christophe Moser,** *Laboratory of Applied Photonics Devices (LAPD), School of Engineering (STI), EPFL*
- **Prof. Demetri Psaltis,** *Laboratory of Applied Photonics Devices (LAPD), School of Engineering (STI), EPFL*
- **Dr. Ye Pu,** *Laboratory of Applied Photonics Devices (LAPD), School of Engineering (STI), EPFL*

INSTRUCTORS

The speakers are recognized experts in the field of additive manufacturing at EPFL or partner companies and institutions – such as Sonova, Comadur of Swatch Group, Readily3D, Rema, or SIPBB.

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