

Otdigital Deep Dive

The Potential of AI in Orthopaedics

AI- Data Analytics - Education

16th October 2026 - Bologna, Italy



IRCCS
ISTITUTO ORTOPEDICO RIZZOLI

PRELIMINARY PROGRAM

<https://otdigital.eu/bologna-2026/>



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Dear colleagues and digital innovators,
Welcome to the OTdigital Deep Dive – a focused one-day meeting dedicated to the practical impact of artificial intelligence in orthopaedics. The event will bring together experts from orthopaedics, research, and industry for a compact series of sessions, case discussions, and panel exchanges. We will highlight current developments in AI driven surgical planning, enabling technologies in the OR, and data based decision making, with a strong focus on real world application, innovation, and industry collaboration.
We are looking forward to welcoming you in Bologna.

CHAIR



Prof. Stefano Zaffagnini, M.D.

CO-CHAIR



Prof. David Back, M.D., MBA

ABOUT OT DIGITAL

The OTdigital community is a European platform for digital innovation in orthopaedics and traumatology, connecting healthcare professionals, industry, and technology experts. Started in 2022, our mission is to advance digital solutions that improve patient care across prevention, diagnosis, treatment, and rehabilitation. Through scientific exchange, collaboration, and dedicated events, we foster the adoption of digital technologies in clinical practice.

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SCIENTIFIC RATIONALE

Orthopaedics represents one of the clinical-surgical fields where technological innovation has experienced the most significant growth in recent years, particularly through the introduction of surgical robotics systems, advanced navigation platforms, and solutions based on artificial intelligence (AI). These technologies are progressively redefining standards in surgical planning, execution, and outcome evaluation, with a particularly strong impact on joint arthroplasty (hip, knee, shoulder) and complex reconstructive procedures.

The integration of robotics and AI now enables an increasingly data-driven approach to orthopaedic surgery: from personalized pre-operative planning based on advanced imaging and predictive models, to real-time intraoperative support, and post-operative analysis of clinical and functional outcomes. In particular, AI algorithms allow the correlation of anatomical, kinematic, and clinical patient data, contributing to improved implant positioning accuracy, biomechanical alignment, and procedural reproducibility.

Despite their potential benefits, the adoption of these technologies presents important challenges in terms of surgeon training, learning curve management, economic sustainability, and integration into hospital workflows. Furthermore, new requirements are emerging regarding the clinical validation of AI-based solutions, the management and protection of healthcare data, the cybersecurity of connected medical devices, and compliance with current regulatory frameworks (including the MDR and related guidelines).

This congress aims to provide an updated and critical overview of the role of robotics and artificial intelligence in orthopaedics, with the objective of equipping participants with practical tools for the informed, effective, and safe adoption of these technologies in daily clinical practice.

The educational activity is intended for orthopaedic surgeons, clinical engineers, healthcare professionals, and stakeholders involved in technological innovation in the musculoskeletal field, with the following objectives:

- To update scientific knowledge on the state of the art of robotics and AI in orthopaedics;
- To analyse clinical evidence in terms of outcomes, patient's and surgeon's benefits;
- To explore adoption models and key success factors for proper related innovation management in healthcare institutions;
- To examine ethical and regulatory implications (including data management and cybersecurity);
- To promote multidisciplinary exchange among clinicians, engineers, and innovation stakeholders.

The scientific program will include dedicated sessions on robot-assisted surgery in knee and hip arthroplasty, the use of AI for surgical planning and outcome evaluation, as well as presentations of clinical studies, case applications, and testimonials from high-experience centres.

In a context where orthopaedic medicine is increasingly oriented toward personalized and evidence-based care models, this congress aims to contribute to the development of a culture of responsible innovation, capable of combining technological advancement, healthcare system sustainability, and improved clinical outcomes, while maintaining the central role of the surgeon's clinical decision-making.

The OTdigital Deep Dive 2026 event will be held in Bologna (Italy) organized with highly represented scientific committee and event chairs which expertise and visions allowed to invite a very important panel of speakers and faculty.

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PROGRAM

08:30

Registration

08:50-09:10

Welcome and Introduction

Stefano Zaffagnini 

David Back 

09:10-10:10

SESSION 1: AI for Surgical Planning & Performance in the OR

Session Chair: L. Nečas 

09:10-09:25

How Robotic Surgery Can Support Data Analytics

B. Rath 

09:25-09:40

AI Driven Planning for Custom Implant in HTO?

C. Belvedere , *A. Leardini* 

09:40-09:55

Reflections on Artificial Intelligences

M. Montali 

09:55-10:10

Discussion

10:10-10:40

Coffee break

10:40-11:45

SESSION 2: The Future of AI: How to Maximize Innovation Impact

Session Chairs: D. Dallari , *A. Leardini* 

10:40-10:55

Building an AI Community within the German Society for Orthopaedics and Trauma

A. von Helden 

10:55-11:15

Enabling Technologies in 2026 - Big Deal or Big Hype?

L. Nečas 

11:15-11:30

What's Next in Digital Surgery?

A. Clavé 

11:30-11:45

Discussion

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11:45-12:45

SESSION 3: Real-World User Experiences with AI in Clinical Practice

Session Chairs: S. Zaffagnini , A. Clavé 

11:45-12:00

Navigation and Robotics: Instruments in Surgeon's Hand

S. Zaffagnini 

12:00-12:15

Lesson Learned in More Than 20 Years of Enabling Technologies

N. Confalonieri 

12:15-12:30

The Digital Doctor Will See You Now

W. van der Weegen 

12:30-12:45

Discussion

12:45-13:45

Lunch Break

13:45-14:45

SESSION 4: AI in Training and Education Pathways

Session Chairs: P. Parchi , D. Back 

13:45-14:00

Simulation and Training the Role for Innovation Adoption

P. Parchi 

14:00-14:15

Adoption Strategies in Clinical Settings

Y. Vanderschelden 

14:15-14:30

Outcomes of the REPAIR Project - Recommendation for Evidence-Based Preoperative AI-Controlled Virtual Reduction and Osteosynthesis of Complex Fractures

D. Back 

14:30-14:45

Discussion

14:45-15:45

PANEL DISCUSSION: AI in Orthopaedics - From Potential Value to Acceptance in Clinical Practice

NO CME SESSION

Session Chairs: C. Paggetti , D. Back 

Panelists: F. Agnoloni , A. MacLeod , M. Montali , L. Nečas ,
M. Rimaud 

CONFERENCE CLOSING

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FACULTY

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GENERAL INFORMATION

CHAIR AND SCIENTIFIC DIRECTOR:

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CO-CHAIR

David A. Back, M.D., MBA, Prof.

CONGRESS MANAGER:

Veronica Bollerì

CONGRESS SECRETARY:

A.I.C. Asti Incentives & Congressi Srl

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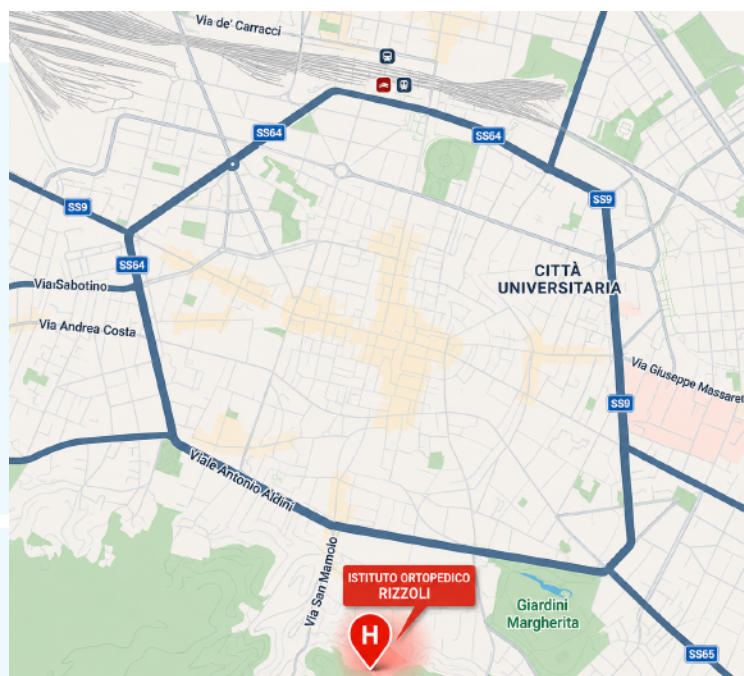
P.zza San Uomobono, 30

56126 Pisa, Italy

REGISTER NOW



Scan or tap the QR code
and follow the steps
to register for the event.



OFFICIAL LANGUAGE:

English

MEETING DATE:

16th October 2026

EVENT VENUE:

ISTITUTO ORTOPEDICO RIZZOLI

Aula Campanacci

Via Giulio Cesare Pupilli, 1, 40136 Bologna BO

CATERING

Refreshments will be served in the designated catering areas at the times indicated in the Congress programme. Participants are kindly requested to notify the Organising Secretariat promptly of any food allergies and/or intolerances.

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Participation in the Congress is subject to a registration fee. Please consult the participation fees below.

OTDIGITAL DEEPDIVE 2026 – PARTICIPATION FEES

	EARLY BIRD REGISTRATION Until 31 st August 2026	REGULAR REGISTRATION From the 1 st to the 30 th of September	LATE / ON-SITE REGISTRATION From the 1 st October, and On Site	ONLINE PARTICIPATION (Available only for non-Italians)
Physician / Researcher / Healthcare Professional*	€150,00	€200,00	€250,00	€100,00
Other Healthcare Professional	€100,00	€125,00	€150,00	€70,00
Students / Medical resident	free	€40,00	€50,00	€30,00

CME ACCREDITATION:

The Congress (ECM ID: 5468-495239) has been accredited by the Italian Ministry of Health and will provide **4 CME credits** to healthcare professionals in the following professions and medical specialties who attend the Congress **in person**:

- Physician (MD):
 - Orthopaedics and Traumatology
 - Sports Medicine
 - Medical Oncology
- Nurse
- Orthopaedic Technician

ASSESSMENT AND GENERAL INFORMATION

Attendance will be monitored through mandatory registration of participants' entry and exit by signature.

Participants are required to sign both upon arrival and departure. Failure to complete either attendance record will result in the loss of eligibility for the awarding of CME credits.

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CME LEARNING ASSESSMENT AND DOCUMENTATION

At the end of the event, participants must complete and submit the required CME documentation to the Organizing Secretariat.

The awarding of CME credits is subject to the fulfilment of the following requirements:

- **Attendance of at least 90% of the total duration of the accredited event**, as verified through the official attendance records.
- **Achievement of a minimum score of 75% in the CME learning assessment questionnaire**, which will be provided to participants before the conclusion of the event.
- **Completion and submission of the participant evaluation questionnaire.**

CME credits will be awarded exclusively to participants who have fulfilled all the above requirements and whose attendance has been duly verified.

EDUCATIONAL OBJECTIVE

APPLICATION OF THE PRINCIPLES AND PROCEDURES OF EVIDENCE-BASED PRACTICE (EBM – EBN – EBP) IN DAILY CLINICAL PRACTICE.

CME CERTIFICATE

Following verification of the attendance and assessment requirements, the CME certificate will be sent to the email address provided on the registration form.

CONGRESS REGISTRATION INCLUDES

- Access to the scientific programme: Admission to all lectures, round-table discussions and plenary sessions.
- Congress materials: Name badge for access to the lecture halls and exhibition area, congress materials, notepad, pen and, where applicable, sponsors' promotional items.
- Certificate of Attendance: An official certificate confirming participation in the Congress.
- Catering services: Coffee breaks and working lunches as scheduled in the Congress programme.
- Congress Proceedings: Upon request, presentation slides and abstracts will be sent by email after the Congress, subject to the authors' permission for distribution.

CME PROVIDER

A.I.C. Asti Incentives & Congressi S.r.l. – National CME Provider ID 5468



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