

OTdigital Deep Dive The potential of AI in Orthopaedics AI - Data Analytics - Education

16th October 2026 - Bologna, Italy

Event Venue: ISTITUTO ORTOPEDICO RIZZOLI Aula Campanacci
(Via Giulio Cesare Pupilli, 1, 40136)
Bologna BO

Chairs and Scientific Directors: Stefano Zaffagnini, Paolo Domenico Parchi
Scientific Committee: Stefano Zaffagnini, Paolo Domenico Parchi, David Back

CME Provider: A.I.C. ASTI INCENTIVES & CONGRESSI – ID 5468

Training hours: about 4h 30'

CME Credits: about 4

n° participants: 75

Learning Object: 29. INNOVAZIONE TECNOLOGICA: VALUTAZIONE, MIGLIORAMENTO DEI PROCESSI DI GESTIONE DELLE TECNOLOGIE BIOMEDICHE, CHIMICHE, FISICHE E DEI DISPOSITIVI MEDICI. HEALTH TECHNOLOGY ASSESSMENT

Language: English

Healthcare Professions and Medical Specialty:

- Medico Chirurgo:
 - Ortopedia e Traumatologia
 - Medicina dello Sport
 - Oncologia
- Infermiere
- Tecnico Ortopedico

Attendance tracking: Entrance and exit signature

CME Questionnaire:

CME documentation must be submitted to the Organizing Secretariat at the conclusion of the event.

The awarding of credits is contingent upon:

- attendance in the session for 90% of the event's duration;
- correctly answering 75% of the questions on the evaluation questionnaire; -
- submitting the event evaluation questionnaire, fully completed.

PRELIMINARY SCIENTIFIC PROGRAM

08:30 Registration

08:50-09:10 Welcome and Introduction

*Stefano Zaffagnini
Paolo Domenico Parchi
David Back*

09:10-10:10 SESSION 1: AI for Surgical Planning & Performance in the OR

Session Chair: M. Gouyard, L. Nečas

09:10-9:25 How Robotic Surgery Can Support Data Analytics

B. Rath

09:25-9:40 AI Driven Planning for Custom Implant in HTO?

C. Belvedere, A. Leardini

09:40-9:55 AI and Ethics

M. Montali

09:55-10:10 Discussion

10:10-10:40 Coffee break

10:40-11:40 SESSION 2: The Future of AI: How to Maximize Innovation Impact

Session Chair: D. Dallari, A. Leardini

10:40-10:55 The European Value for Health Data Space

S. Zaffagnini

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

11:45-12:45 SESSION 3: Real-World User Experiences with AI in Clinical Practice

Session Chair: S. Zaffagnini, A. Clavé

11:45-12:00 Navigation and Robotics: Instruments in Surgeon's Hand
D. Notafrancesco

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 Chair: P. Parchi, D. Back

13:45-14:00 Simulation and Training the Role for Innovation Adoption
S. Zaffagnini

14:00-14:15 Adoption Strategies in Clinical Settings
S. Nicoletti

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 Chair: C. Paggetti, D. Back

Panelists: F. Agnoloni, A. MacLeod, M. Rimaud, E. Tamburini

CONFERENCE CLOSING

Faculty

1. Agnoloni Francesco IT -FI
2. Back David Alexander DE
3. Belvedere Claudio IT - BO
4. Clavé Arnaud FR
5. Confalonieri Norberto IT - MI
6. Dallari Dante IT - BO
7. Gouyard Mathieu FR
8. Leardini Alberto IT - BO
9. MacLeod Alisdair UK
10. Montali Marco IT - BZ
11. Nečas Libor SK
12. Nicoletti Simone IT - FI
13. Notafrancesco Donato IT - SA
14. Paggetti Cristiano IT - FI
15. Parchi Paolo Domenico IT - PI
16. Rath Bjoern AT
17. Rimaud Mathieu - FR
18. Tamburini Elena IT - FI
19. van der Weegen Walter - NL
20. Zaffagnini Stefano IT - BO

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.

Acronyms

OR: Operating Room

HTO: High Tibial Osteotomy

AI: Artificial Intelligence

OTdigital DeepDive2026 - PARTICIPATION FEES

	EARLY BIRD REGISTRATION 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 €
Student/Medical Resident	free	40,00 €	50,00 €	30,00 €