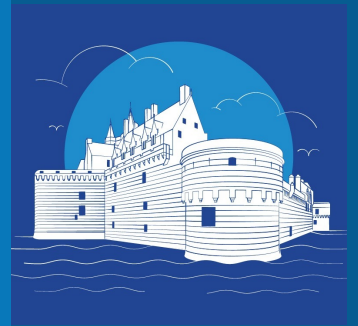




INCOM 2027 • NANTES

Information, Control and Optimization in Manufacturing

AI and digital technologies for resilient and sustainable production and logistics

TRACK

PAPERCEPT • 6v9s5

Resilient, Intelligent and Connected Healthcare Systems: Bridging Operations Research, Artificial Intelligence and Industrial Engineering

Official Track Proposal - Validated content

TRACK CHAIRS



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TRACK SUMMARY

Healthcare systems worldwide are facing unprecedented challenges driven by demographic changes, ageing populations, chronic diseases, healthcare workforce shortages, pandemics, climate-related crises, and increasing expectations regarding quality, accessibility, sustainability and resilience. These challenges require innovative approaches capable of supporting healthcare organizations in designing, planning, managing and continuously improving healthcare services.

The digital transformation of healthcare has opened new perspectives by combining Operations Research (OR), Artificial Intelligence (AI), Industrial Engineering (IE), data analytics, optimization, simulation, digital twins and decision support systems. These technologies enable healthcare organizations to improve operational performance while ensuring patient-centered care and efficient resource utilization.

This track aims to gather researchers and practitioners working on innovative methods, models and applications addressing healthcare management problems at operational, tactical and strategic levels. Particular attention will be devoted to the integration of optimization methods, AI techniques and industrial engineering approaches for supporting healthcare decision-making in hospitals, home healthcare, emergency medical services and emergency departments, territorial healthcare, logistics and crisis management.

The track welcomes theoretical contributions, methodological developments, real-world applications, interdisciplinary research and industrial case studies.

KEYWORDS

Healthcare Operations Management

Appointment and multi-appointment Scheduling

Healthcare Facility Location

Emergency Care Pathway

Industry 5.0 in Healthcare

AI-based Decision Support Systems

Predictive Analytics

Optimization under Uncertainty

TOPICS OF INTEREST

- Healthcare Operations Management
- Hospital Operations Planning
- Integrated Healthcare Planning
- Home Healthcare Logistics
- Vehicle Routing Problems for Healthcare
- Appointment and multi-appointment Scheduling
- Workforce Scheduling
- Healthcare Supply Chain Management
- Healthcare Facility Location
- Emergency Care Pathway
- Disaster and Pandemic Management
- Healthcare Digital Twins
- Smart Hospitals
- Industry 5.0 in Healthcare
- AI-based Decision Support Systems
- Machine Learning for Healthcare Planning
- Predictive Analytics
- Optimization under Uncertainty
- Multi-agent Systems
- Internet of Medical Things (IoMT)
- Human-centered Healthcare Systems
- Sustainable Healthcare Operations
- Healthcare Process Improvement
- Lean Healthcare
- Simulation and Digital Healthcare

METHODOLOGICAL APPROACHES

Mathematical Optimization

Metaheuristics and Matheuristics

Simulation and Online Optimization

Digital Twins

Machine Learning

Deep Learning

Reinforcement Learning

Multi-Agent Systems

Data Analytics

Internet of Things

Geographic Information Systems (GIS)

Decision Support Systems

PUBLICATION OPPORTUNITY

Authors of the best papers presented during this track will be invited to submit an extended version of their work to a Special Issue in indexed international journal, subject to the journal's peer-review process and editorial policy.

International Journal of Production Research/Health Care Area (IJPR)

Flexible Services and Manufacturing Journal/Health Care Area (FSMJ)

IMPORTANT DATES

14 DEC 2026

Invited session / track paper submission deadline

31 JAN 2027

Notification to authors

01 APR 2027

Final paper submission deadline

28-30 JUN 2027

INCOM 2027 - Nantes, France

SUBMISSION IN PAPERCEPT

Papers intended for this track must be submitted in PaperCept as an Open Track Paper and must use the PaperCept code assigned to this track.

CODE 6v9s5

Do not submit it as a Regular Paper if it belongs to this track.