

EXO Ergo 2020



WHAT IS THE FUTURE OF EXOSKELETONS IN INDUSTRY?

25 NOV



4-6 PM

WEB

www.fondazioneergo.it

PROGRAM NOVEMBER, 25TH

4.00 pm **EAWS Platform, a bridge to efficiently connect ergonomic research with industry**
Gabriele Caragnano

EXO-Ergo TALKS

4.15 pm **Development of active exoskeletons for industry: challenges and advantages**
Jesus Ortiz

4.30 pm **Relevance of exoskeletons for industrial ergonomics in manufacturing**
Ralph Bruder

4.40 pm **Presentation of EXO-EAWS project**
Francesco Violante

EXPERIENCE TALKS

Application experiences of exoskeletons from the automotive industry

4.50 pm **Exoskeletons in the industrial use - a balancing act between expectations and practical demands**
Martin Haselhuhn

5.00 pm **Exoskeletons in automotive industry: investigation into the applicability in FCA**
Chiara Carnazzo

5.10 pm **Application experiences of exoskeletons from the automotive industry: GM**
Robert Fox and Ryan Porto

SCIENCE & STANDARDS TALKS

5.20 pm **Guidelines and research activities about the use of exoskeletons by the Association of the Scientific Medical Societies**
Benjamin Steinhilber

5.35 pm **ASTM International Exo Technology Center of Excellence: First Round of Research to Standards Projects**
Borislav Marinov

5.50 pm **Q&A and closing**

SPEAKERS



GABRIELE CARAGNANO
Partner, PaC
Technical Director, Fondazione Ergo



JESUS ORTIZ
Researcher, head of XoLab group
Advanced Robotics
IIT Central Research Labs Genova



RALPH BRUDER
EAWS Scientific Committee Chairman
Professor, Faculty of Mechanical Engineering
Director, Darmstadt University of Technology



FRANCESCO VIOLANTE
EAWS Scientific Committee
Professor, School of Occupational Medicine,
Alma Mater Studiorum Bologna University



MARTIN HASELHUHN
Head of Industrial Engineering,
Volkswagen Group



CHIARA CARNAZZO
Exoskeleton Project Global Responsible,
Fiat Chrysler Automobiles



ROBERT FOX
Technical Fellow, Ergonomics,
General Motors



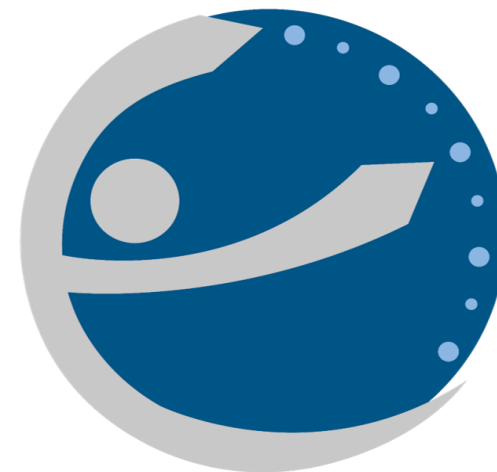
RYAN PORTO
Technical Specialist, Ergonomics,
General Motors



BENJAMIN STEINHILBER
Professor, Department of Internal Medicine
and Head of research on work-related stress
work design, Tübingen University



BORISLAV MARINOV
Founding Partner, ASTM Exo Technology
Center of Excellence
Founder, Exoskeleton Report



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. BELLAFACTORY .



Partner of MTM ASSOCIATION

Fondazione Ergo-MTM Italia



- Fondazione Ergo was established in January 2012 and is based in Varese (IT) as a **training and certification body, neutral and competent in the application of scientific management of work and ergonomics.**
- Fondazione Ergo is Global Partner in the **One-MTM Group**
- The goal is the search of a path to **sustainable industrial development**, based on knowledge, training and innovation.
- Fondazione Ergo wants to be a **Think Tank** about industrial competitiveness, inspired by the concepts of "good productivity" and "BellaFactory"®
- **Fondazione Ergo gathers industrial groups, trade unions and research institutes**



www.fondazioneergo.it

Via Procaccini 10 – 21100 Varese

What do we offer

To the Companies

- A **center of excellence**, training, certification, research and development in the field of work and applied ergonomics
- An **audit** service provider on labor productivity and ergonomic risk management vs. World Class Manufacturing benchmarks
- An **observatory** of operational data on key parameters of work organization (performance, incentive systems, occupational diseases, organizational models, production systems);
- A support to face large **transformation** programs

To the Unions

- A **neutral competent** training and qualification organization about work analysis and biomechanical loads control;
- A **technical consultant** in the definition of supplementary contracts that refer to labor productivity;
- An **observatory** of operational data on key parameters of work organization (performance, incentive systems, occupational diseases, organizational models, production systems);

To the Universities

- A source of international **research** and development projects and specific training programs in the field of work study and applied ergonomics;
- A specific **link** on work organization and ergonomics with the companies participating in the Foundation;
- Promoter of scholarship/PHD funding;
- A place to acquire specific **capabilities** required by the industry;
- A point of **contact** with the industry

EAWS Strategic initiatives

Ongoing

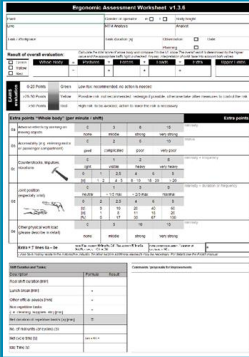
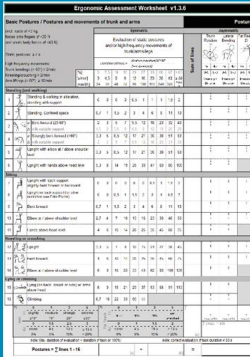
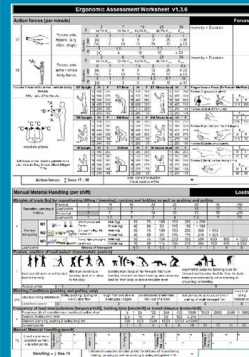
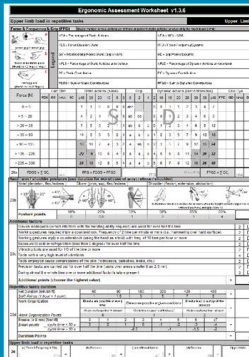
- EAWS platform set up
- EAWS validation project (FCA Melfi)
- ISO TR 23076
- Eso-EAWS Project
- EAWS online training platform

Envisioned

- EAWS platform extension to new territories
- EAWS validation project extension
- Eso-EAWS project extension
 - Validation
 - Certification
- Digital EAWS 2.0
- EAWS man-machine optimizer

EAWS – Ergonomic Assessment Work-Sheet

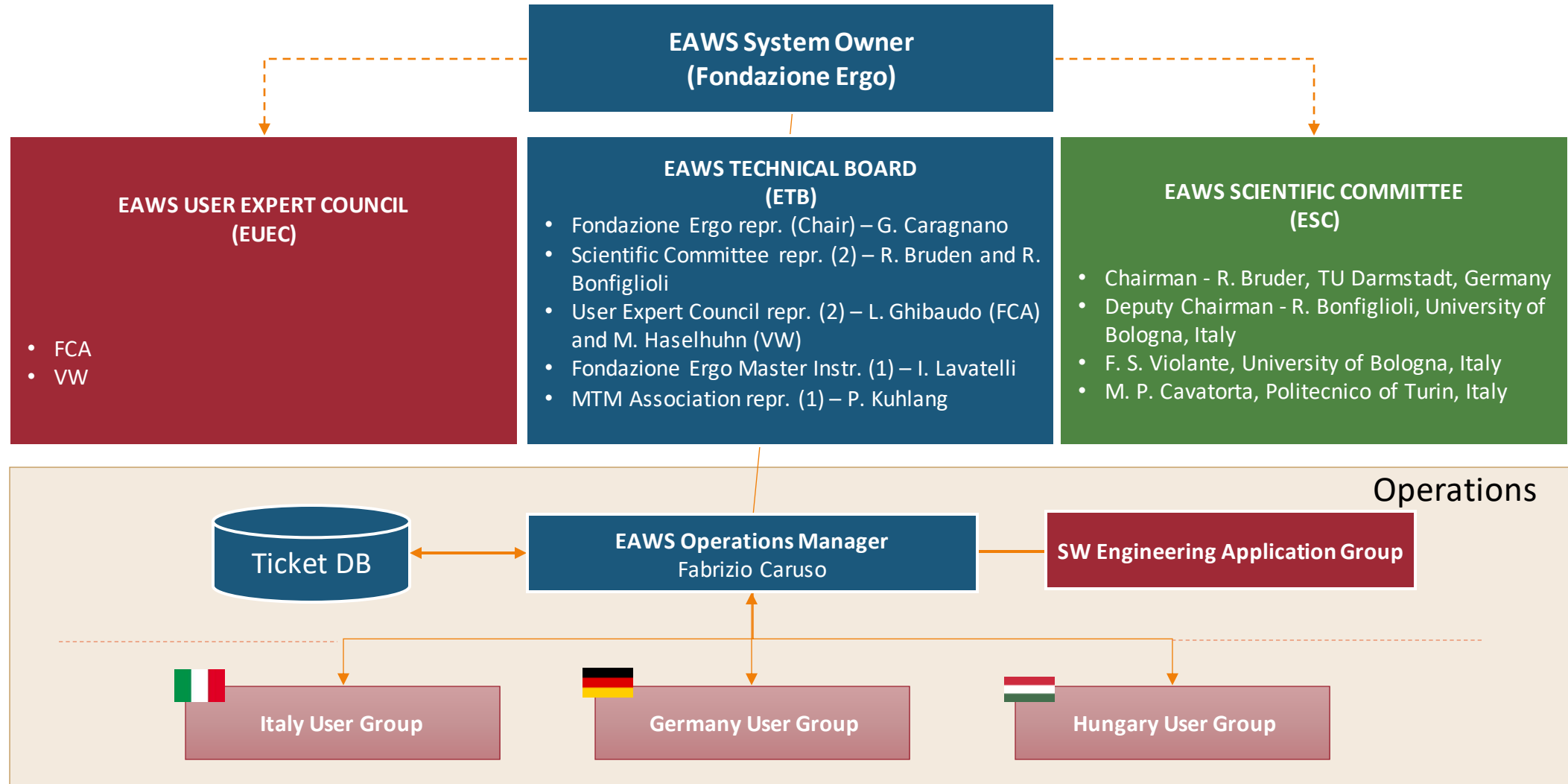
EAWS

Page 1 (Header)	Page 2 (Section 1)	Page 3 (Sections 2 and 3)	Page 4 (Section 4)
			
Overall Index and Extra Points	Body Postures	Action Forces and MMH	Upper Limbs repetitive movements

EAWS is an ergonomic tool for the assessment of the risk due to biomechanical overload, developed to provide an overall risk evaluation that includes every biomechanical risk to which an operator may be exposed during a working task.

- EAWS was developed by an international team of experts and is constantly being further developed.
- EAWS is a **comprehensive system** (full coverage of all risk areas) and it provides detailed results in four sections:
 - Body Postures
 - Action Forces
 - Manual Materials Handling
 - Upper Limbs
- EAWS supports the users in the method (re-)design to improve ergonomic conditions - from planning and design to on-going production.

EAWS Platform





ERGONOMIC ASSESSMENT WORKSHEET

EAWS is an innovative approach to improve the ergonomic design of a workplace. The main objective is **good work planning**.
EAWS is adopted globally by leading multi-national groups in the industrial manufacturing, automotive and Aerospace & Defence sectors.

Contacts

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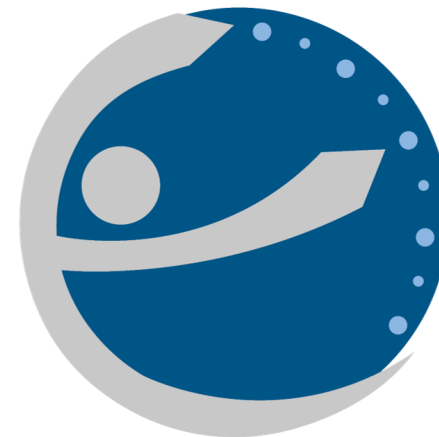
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Thank you



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