



MED



Medical Equipment Discarded

**A NEW INTEGRATE SYSTEM TO REDUCE WASTE
BY MEDICAL EQUIPMENT AND MEDICAL WEEE**

LIFE13 ENV/IT/000620

MED



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GIUSEPPE TOMASONI LAURA BORGESSE

18/09/2014



UNIVERSITA' DEGLI STUDI DI BRESCIA
Facoltà di Ingegneria

Dip. Meccanica e Industria

MED



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MED & UNIBS

- 2 gruppi di ricerca
 - Gruppo di Impianti Industriali Meccanici
 - Laboratorio Chem4Tech



- Azioni

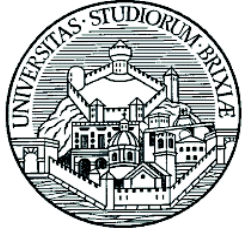
- A1
- B2 e B9
- C1

MED



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OPERATIONS MANAGEMENT AND INDUSTRIAL ENGINEERING

ING-IND/17

**Dipartimento di Ingegneria Meccanica e Industriale
Università degli Studi di Brescia**



Who we are?

f 1 Full Professor

f 3 Researchers

f Phd and fellows

f Marco Alberti

f Diana Rossi

f Giuseppe Tomasoni

f Paola Cocca

f Filippo Marciano

f Massimo Collotta

f Elena Stefana

f Inma Barbera



Main lines of research

Subjects are related to the industrial processes and technical means for the production, including sustainability of industrial production, environmental issues and human factors.

The main lines of research are:

- Design and technical-economic analysis of production systems, optimization of the industrial and service systems.
- Ergonomics, safety and environmental compatibility of production systems and industrial products
- Management of production factors and production systems, quality, energy and maintenance management.
- Logistics, supply chain management
- Integrated information system for the management of production



Recent and current Research Projects

- COSMOS
- COSMOS RICE
- NINIVE
- TECHNOENERGY
- MED
- DUAL FUEL RISK ASSESSMENT (CSEAB)
- VIDEO SURVEILLANCE SYSTEMS FOR SAFETY WORK



Teaching

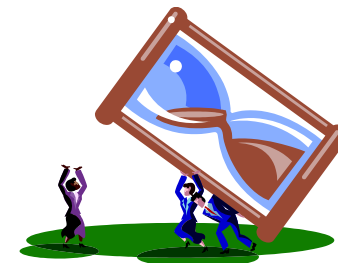
- Industrial plants design and management
- Industrial logistics management
- Production and safety management
- Integrated management systems
- Laboratory of production management

ACTION A1



- Analysis of the state of the art in the management of disused medical equipment
- Obiettivi
 - Analizzare le pratiche comunemente impiegate per la gestione delle fasi di dismissione delle attrezzature mediche
- Risultati
 - Revisione della letteratura tecnico-scientifica sulla gestione dei WEEE medicali
 - Conduzione di almeno 4 casi di studio

ACTION A1



| Action numbe | Action Name of the action | 2014 | | | | 2015 | | | | 2016 | | | | 2017 | | | |
|--|---|------|----|-----|----|------|----|-----|----|------|----|-----|----|------|----|-----|----|
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| A. Preparatory actions: | | | | | | | | | | | | | | | | | |
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| B. Implementation actions: | | | | | | | | | | | | | | | | | |
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| B.2 | ANALYSIS FOR THE CORRECT CHARACTERIZATION AS WASTE OF MEDICAL EQUIPMENT | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | |
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| B.4 | LABORATORY FOR THE RECOVERY OF MEDICAL EQUIPMENT | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | |
| B.5 | DONATION OF RECOVERED MEDICAL EQUIPMENT TO MEDICAL INSTITUTIONS AND RECIPIENTS ALL OVER THE EUROPEAN TERRITORY | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | |
| B.6 | DISTRIBUTION TO PRIVATES OF HOME HEALTH CARE EQUIPMENT AND SMALL DEVICES | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| B.7 | APPLICATION OF THE INTEGRATED SYSTEM IN ROMANIA AND EASTERN EUROPE | | | | | | | | | | | ■ | ■ | ■ | ■ | ■ | |
| B.8 | NATIONAL WORKING TABLE OF CONSULTATION FOR THE DEFINITION OF GUIDELINES IN THE FIELD OF MANAGEMENT OF DISCARDED MEDICAL EQUIPMENT | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| B.9 | LIFE CYCLE ASSESSMENT (LCA) | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| C. Monitoring of the impact of the project actions: | | | | | | | | | | | | | | | | | |
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ACTION B9



- Life Cycle Assessment (LCA)
- Obiettivi
 - Confrontare il nuovo Sistema di gestione integrato MED con le alternative comunemente adottate per quantificarne i benefici ambientali
- Risultati
 - Analisi bibliografica su LCA di dispositivi medici dismessi
 - Conduzione di 3 analisi LCA di specifici dispositivi medici

ACTION B9



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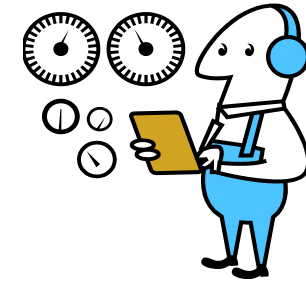


ACTION C1



- Monitoring of the environmental impact of the project
- Obiettivi
 - Monitorare l'impatto ambientale del progetto
- Risultati
 - Pubblicazione di 3 rapporti intermedi con i risultati del monitoraggio
 - Pubblicazione di un rapporto intermedio sull'impatto ambientale del progetto
 - Valutazione dell'impatto ambientale del progetto

ACTION C1



- Indicatori
 - Tons of waste collected by CAUTO and Ateliere fara frontiere in the medical institutions and properly managed
 - Number of devices and equipment donated by healthcare centres and reconditioned for the subsequent reuse
 - Number of spare parts removed from the electronic equipment and intended for reuse
 - Number of devices and equipment donated by MEMUA and AFF to entities or organizations that operate in the international cooperation for their reuse
 - Tons of CO2 into the atmosphere saved

ACTION C1



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Permanent staff



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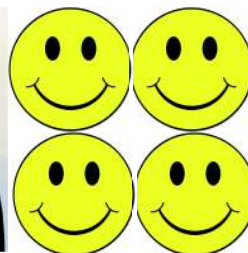


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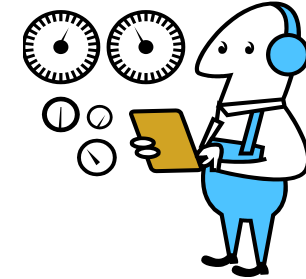
PhD students



Fabjola Bilo
Alberto Bosio
Rogerta Dalipi
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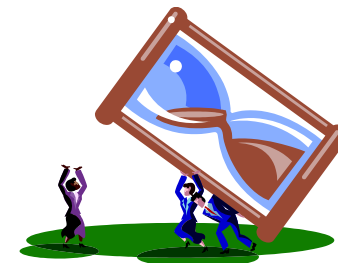
Jonida Dalipi
Joana Gjipalj
Laura Benassi
Irene Vasallini

ACTION B2



- Sviluppo di criteri scientifici per la corretta caratterizzazione delle attrezzature mediche :
 - Presenza di sostanze pericolose
 - Classificazione (EWC - European Waste Code)
- Attività principali:
 - Studio delle direttive RoHS (Restriction of Hazardous Substances)
 - Analisi di campioni di attrezzature mediche
 - Valutazione dei diversi componenti
 - Identificazione della presenza di sostanze pericolose e/o radioattive

ACTION B2



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**GRAZIE PER L'ATTENZIONE
TE MULȚUMESC PENTRU ATENȚIE
THANK YOU FOR YOUR ATTENTION**