



02 Oktober 2021

“IFHE Role in planning and Management of Hospital Facilities in the Covid-19 Endemic and Industrial Revolution 4.0 Era”

Briseyda Reséndiz Márquez

Hospital Engineering Forum 2021

Indonesian Association Hospital Engineering



Curriculum Vitae

Name: Briseyda Reséndiz

Architect by the Metropolitan Autonomous University (UAM), she studied the Specialization in Planning and Design of Health Care Units at the National Autonomous University of Mexico (UNAM); Since 2017 she has the certification in Design of Units for Health, by the Mexican Association of Specialized Health Architects, (SMAES) and the College of Mexican Architects and the Society of Mexican Architects (CAM-SAM). Since 2007 she has worked in the development and coordination of Executive Projects of Health Care Units, for the public and private initiative.

She is the representative of Mexico and ExCo member of the International Federation of Healthcare Engineering (IFHE).

She currently chairs the Mexican Association of Specialized Health Architects and serves as director of the firm Grupo Artedi.

OUTLINE

- 1. IFHE**
- 2. IFHE & WHO / Covid -19**
- 3. COVID and the çIndustrial revolution 4.0 Era?**

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IFHE

- Who we are? & Porpuse,
- Objectives,
- Philosophy,
- Values,
- Worldmap,
- Publications

Who we are? & Porpuse



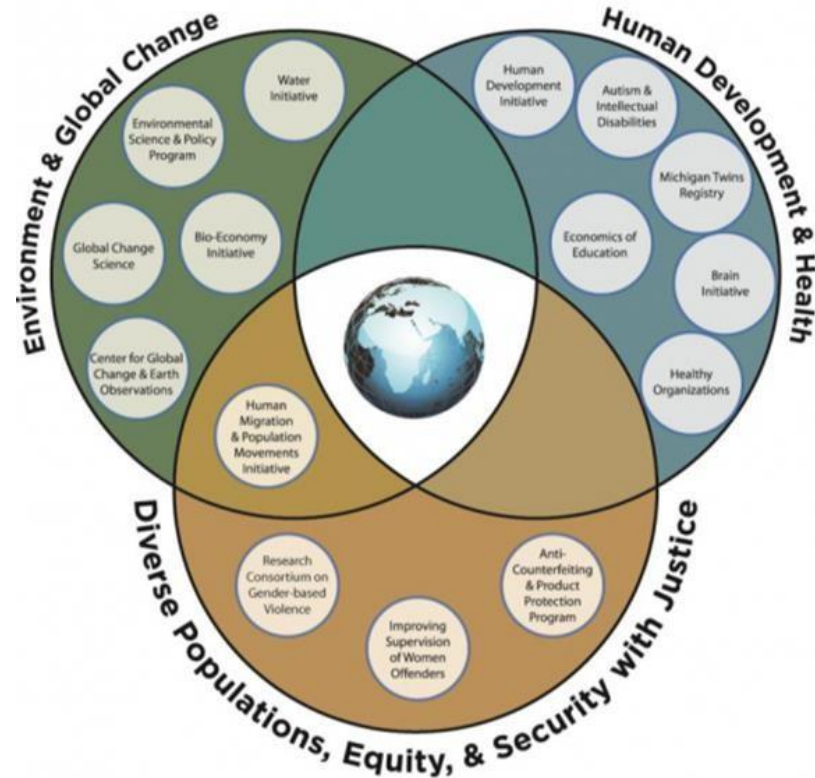
IFHE Council Meeting 41
20Th Congress Barcelona
2008

- The International Federation of Healthcare Engineering (IFHE) is a non-profit, non-governmental body established in 1970 to enable national engineering professional organizations to join in a world-wide federation.

- IFHE encourage and facilitate exchange of information and experience in the broad field of hospital and healthcare facility design, construction, engineering, commissioning, maintenance, and estate management.



Who we are? & Porpuse



- Membership of IFHE has spread to over - **48 countries** - embracing some
- **A Members 36 Countries**
- **B Members 10 Individual Associates**
- **C Members 1 Institutional Member**
- **D Members 3 Company Affiliate Members**
- **E Members 8 Honorary Members i.e. Past Presidents and those who have given special service to IFHE.**
- **15-20** thousand persons. Almost only decisionmakers
- In addition to national healthcare engineering organizations, IFHE also admits as members: governmental institutions, corporate consultants, commercial and industrial firms, as well as individuals or small groups of interested persons.

Objetives



INTERNATIONAL
FEDERATION
OF HEALTHCARE
ENGINEERING



Opening of seminar

Openig of seminar
India
2004

- To disseminate, develop and promote the technology of hospital engineering;
- Compare the international experience which promotes the principles of assessment, design, and planning integration by improving collaboration between professionals. .

Objetives



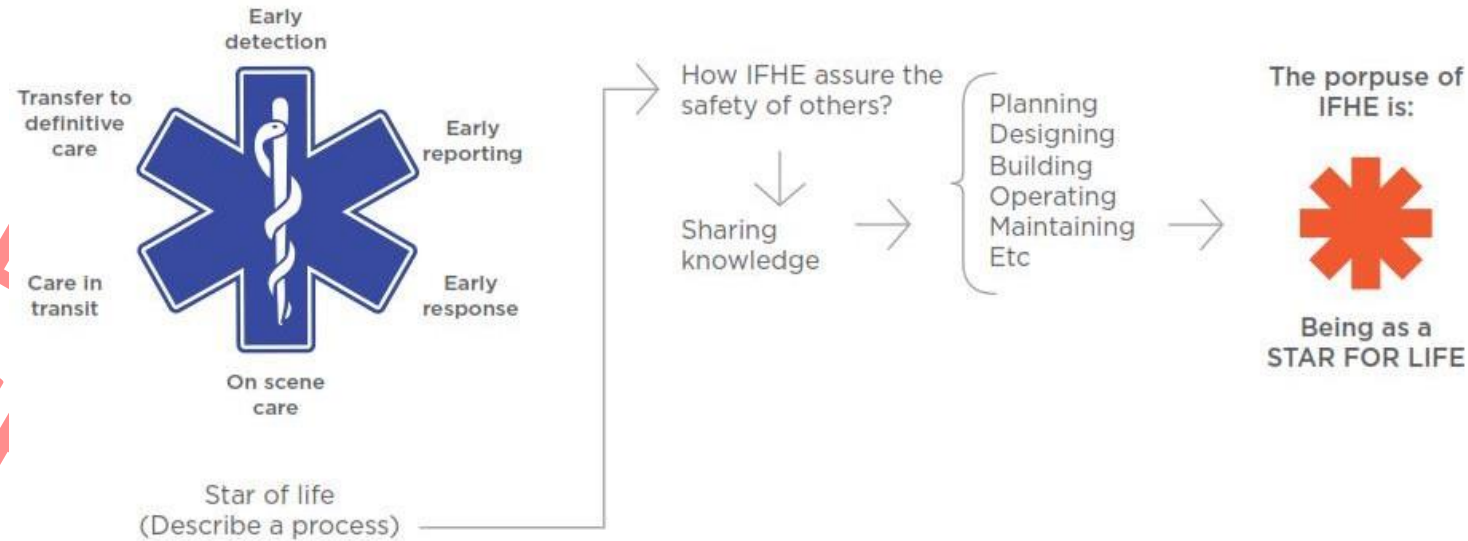
INTERNATIONAL
FEDERATION
OF HEALTHCARE
ENGINEERING



IFHE Council Meeting 43
22Th Congress Norway
2012

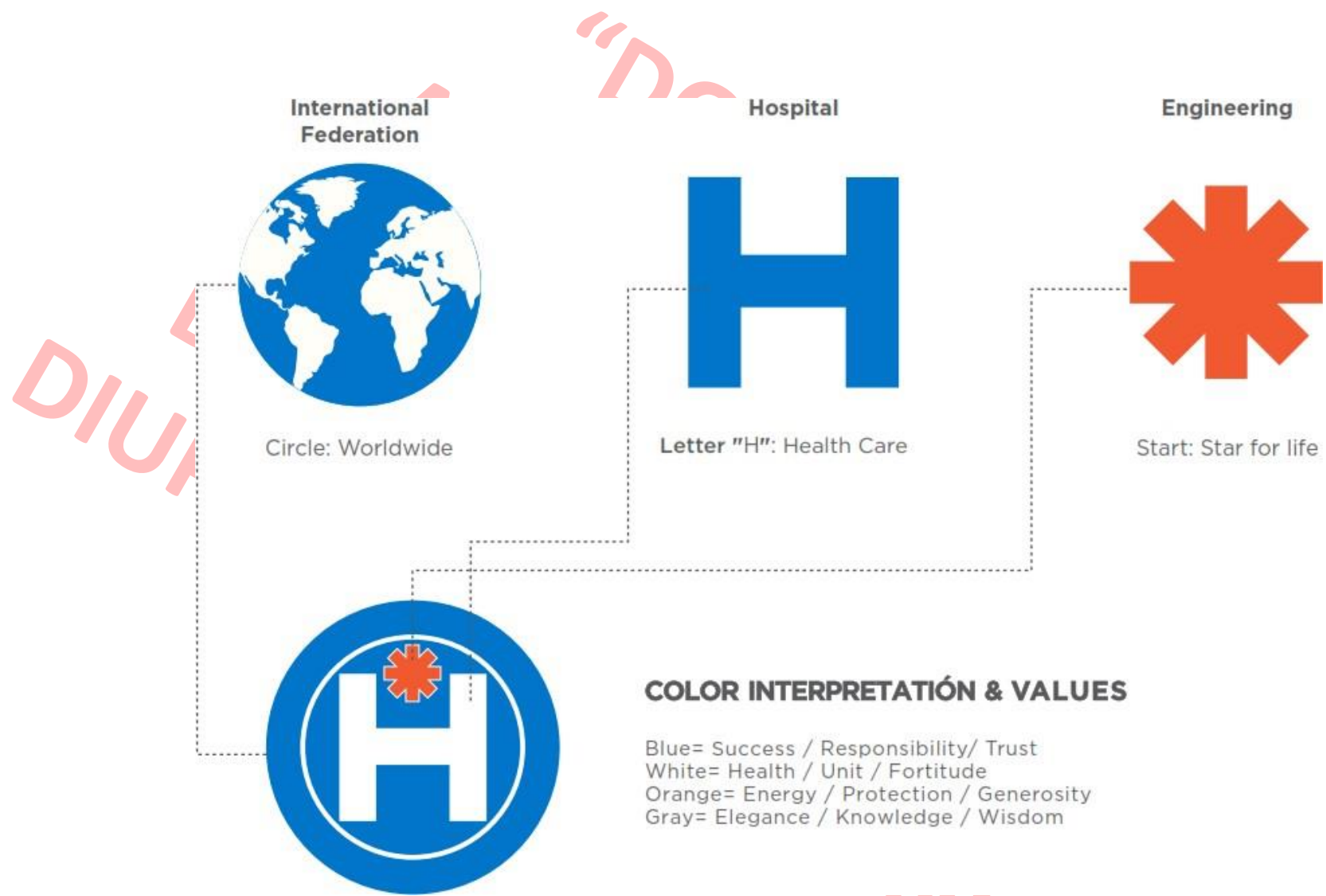
- Promote a better efficiency in the management of safety, maintenance and operation of hospitals in its buildings, equipment, facilities and engineering
- Offer a collaboration with other international organizations.

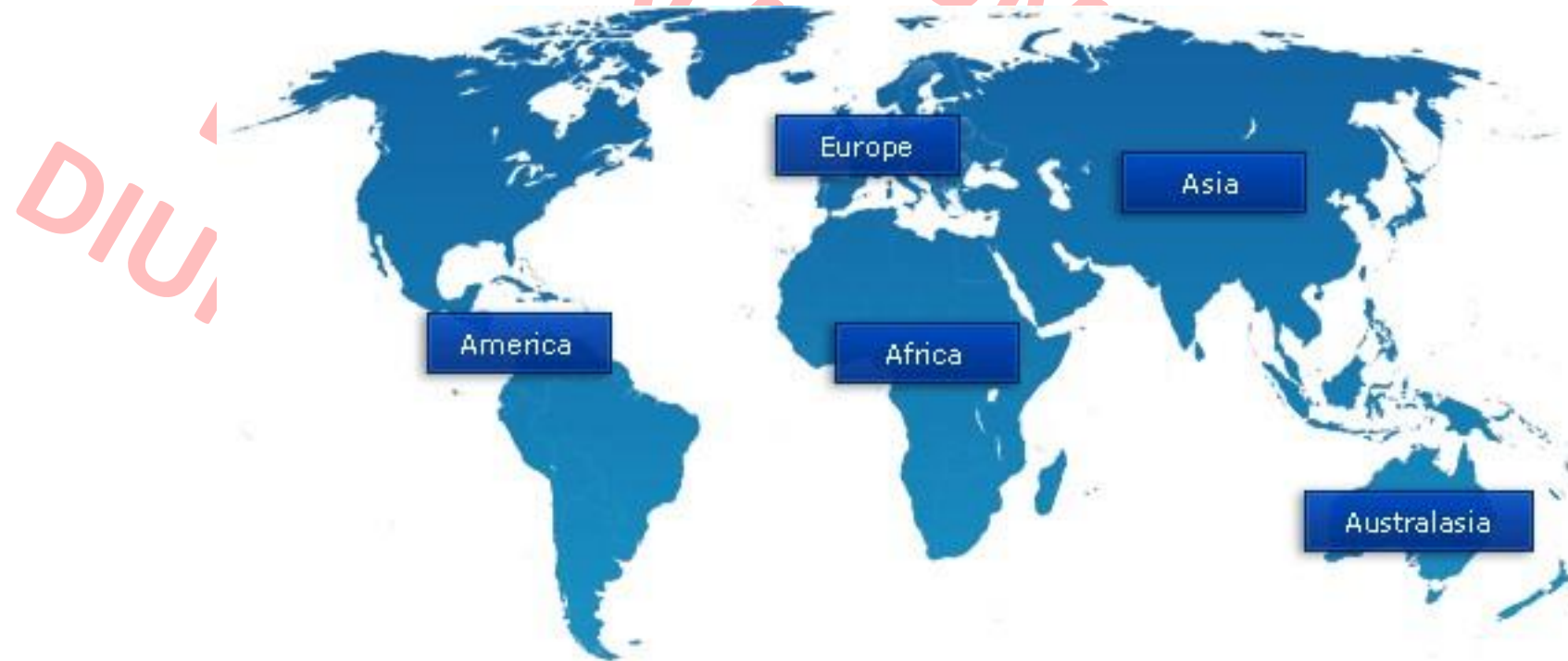
Philosophy



- The IMAGE of IFHE, find its origin in the logo **STAR OF LIFE**
- Traditionally the logo was used as a stamp of authentication or certification for ambulances, paramedics or other EMS personnel. Internationally, it represents emergency medical services units and personnel.
- Originally, many ambulances used a safety orange cross on a square background of retroreflective white to designate them as emergency vehicles. This logo was used before national standards for Emergency Medical Personnel or ambulances were established.
- **Safety orange** . Safety orange is used to set objects apart from their surroundings, particularly in complementary contrast. Most places, such as construction sites, use safety orange to help ensure **the protection of others**.

Values







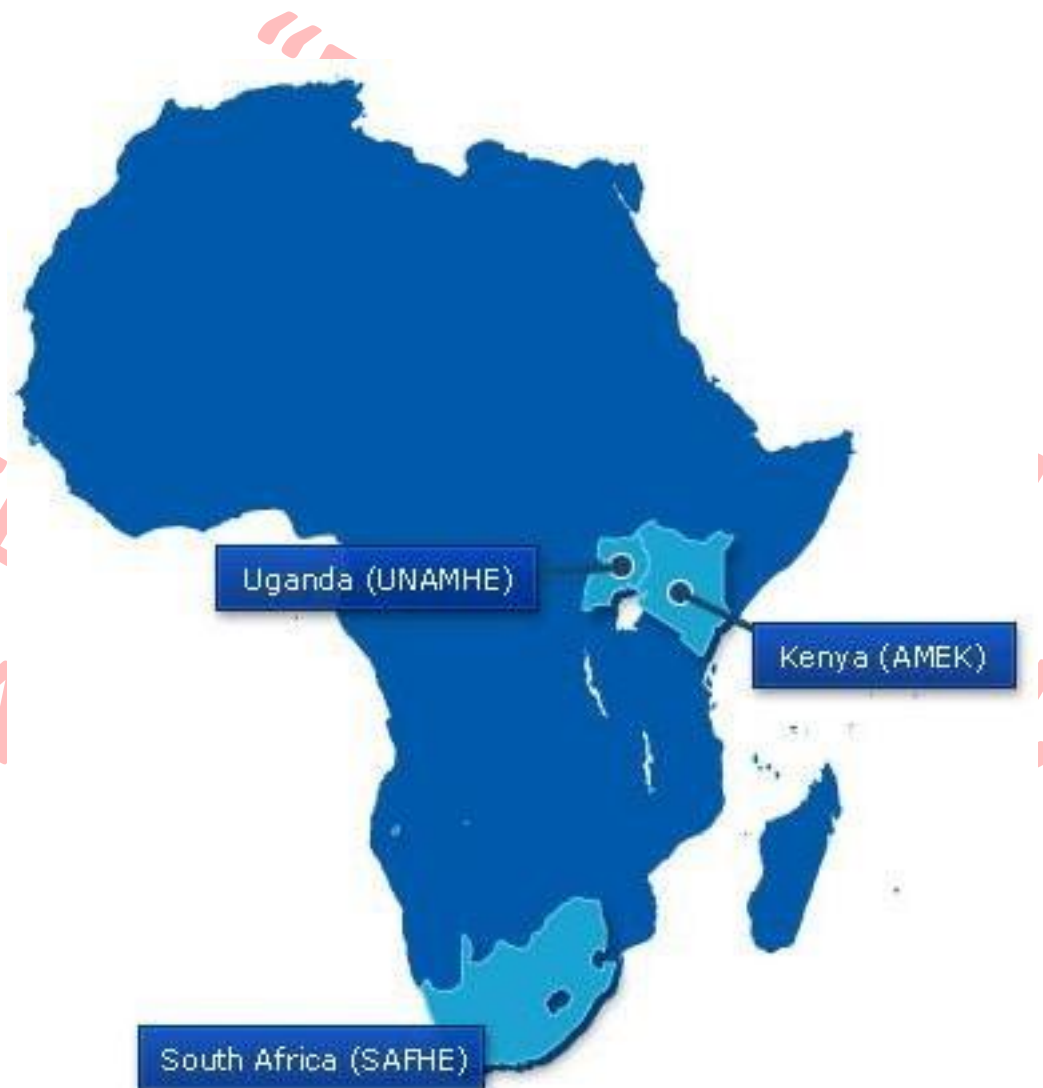
DISA
DIUPLC



“LIVE”



DISEASE
DIUPLOA



“ONLINE”



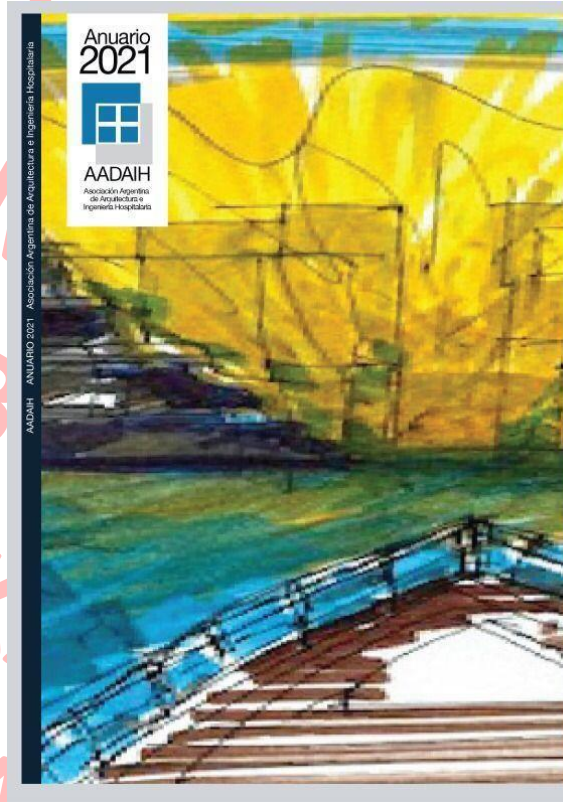




Publications (among other)



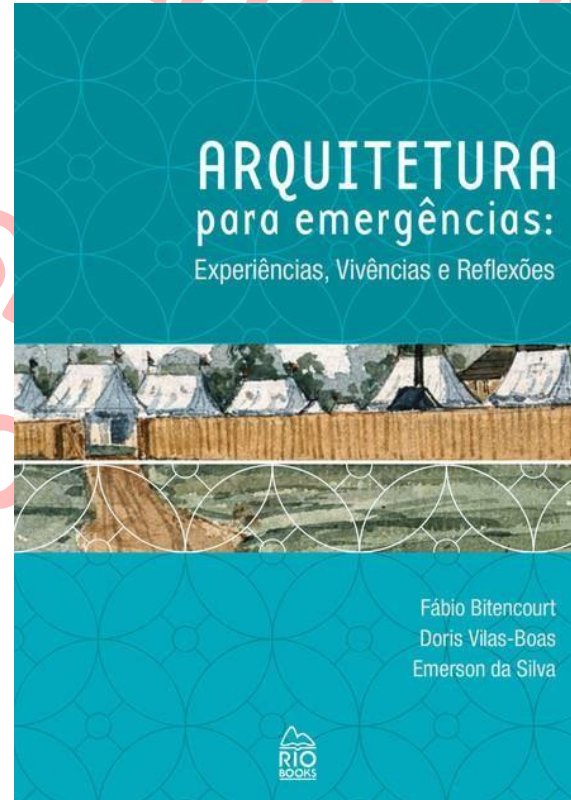
INTERNATIONAL
FEDERATION
OF HEALTHCARE
ENGINEERING



Publications (among other)



INTERNATIONAL
FEDERATION
OF HEALTHCARE
ENGINEERING



2

Collaboration with other international organizations

- IFHE & WHO - Techne

“Dokumen ini adalah milik PTPI, tidak boleh disebarluaskan atau diupload secara online”

Collaboration with other international organizations



INTERNATIONAL
FEDERATION
OF HEALTHCARE
ENGINEERING



World Health
Organization

- IFHE is **recognized** by the World Health Organization (WHO) in Geneva, as a
- Non-governmental Organization in Official Relations with the WHO.



14

COUNTRIES
VOLUNTEERED

19

VOLUNTEER
TEAMS

With information presented during the
26th Congress.
Rome, 2022

IFHE Response to COVID 19



INTERNATIONAL
FEDERATION
OF HEALTHCARE
ENGINEERING

200+
VOLUNTEERS

With information presented during the
26th Congress,
Rome, 2022

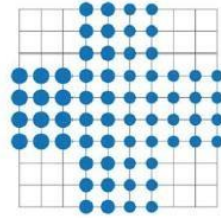


14 COUNTRIES
VOLUNTEERED



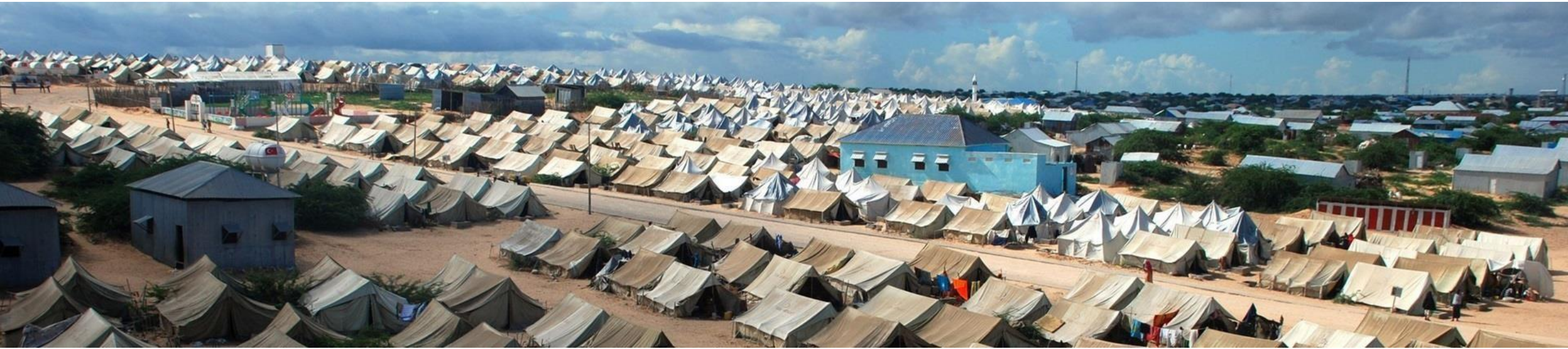
19 VOLUNTEER
TEAMS

IFHE Response to COVID 19

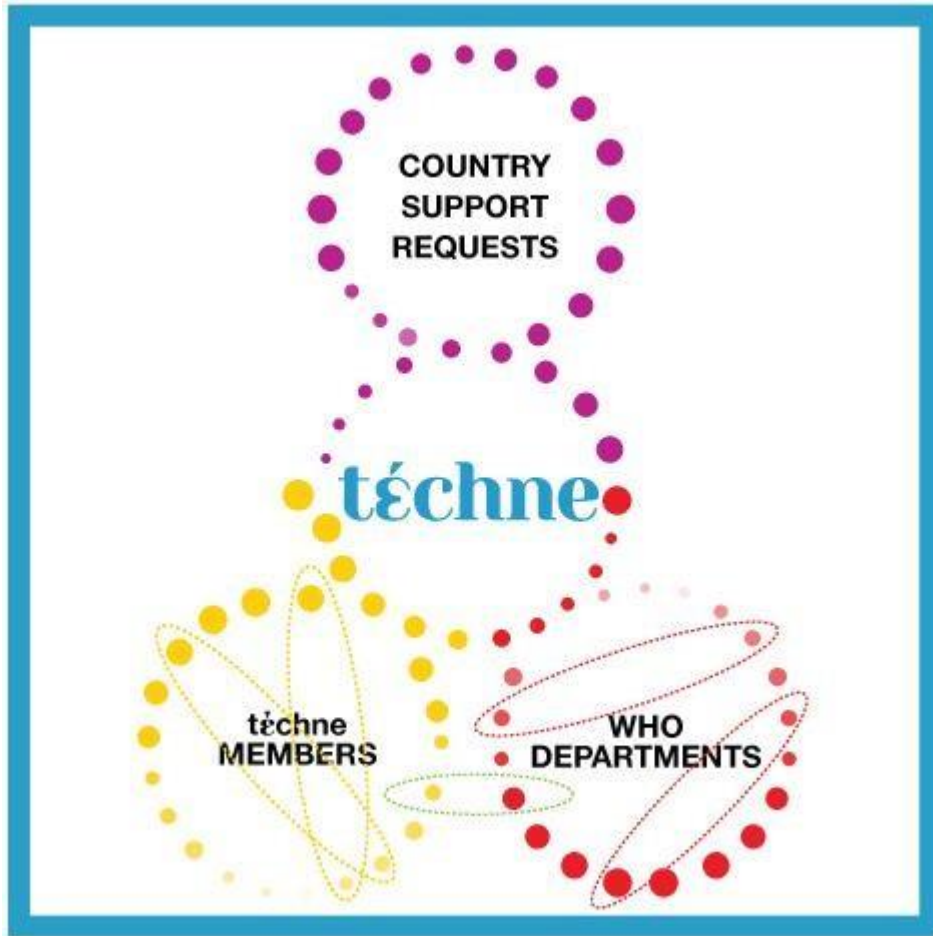


With information presented during the
26th Congress.
Rome, 2022

- WHO network of architects, engineers, designers and public health practitioners from several institutions globally, that responds and prepares to acute public health events with urgent and customized support.



Techne – Model of work



- Matching services to needs
- Addressing country requests with network-based technical support.



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ENGINEERING



April / May 2020



Dedougou, Burkina Faso



IFHE Team from US



WHO country and regional
office

With information presented during the
26th Congress.
Rome, 2022

ONLINE



Challenge

COVID-19 treatment ward within the existing healthcare facility



With information presented during the
26th Congress.
Rome, 2022



ONLINE

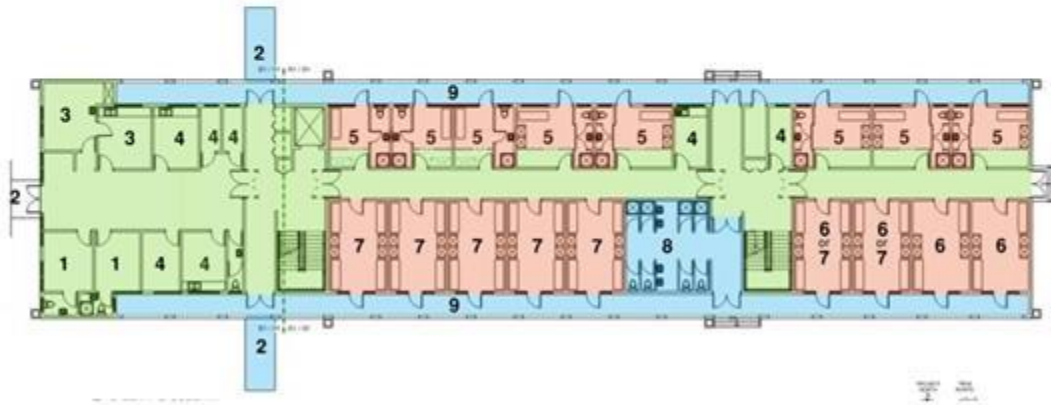


Facility functioning

Flows (Patients, Visitors, Staff)

Personal Protective Equipment

Areas categorization



With information presented during the
26th Congress.
Rome, 2022



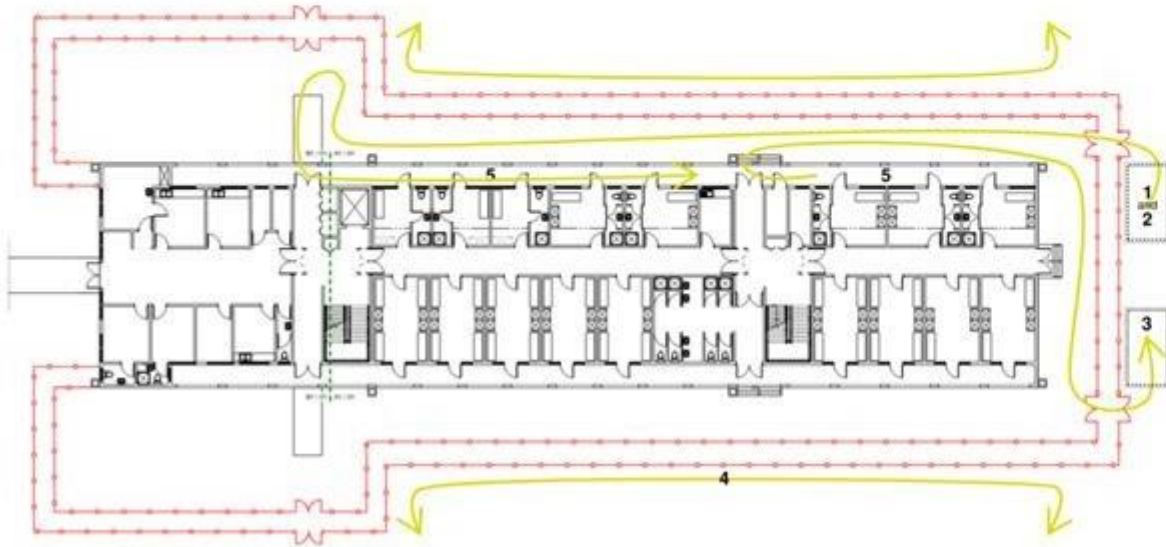
ONLINE

Facility functioning

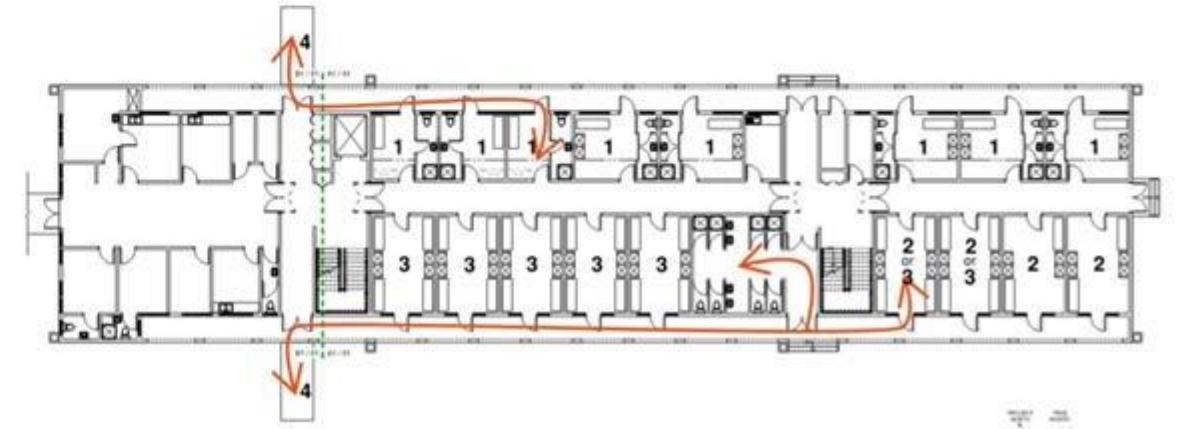
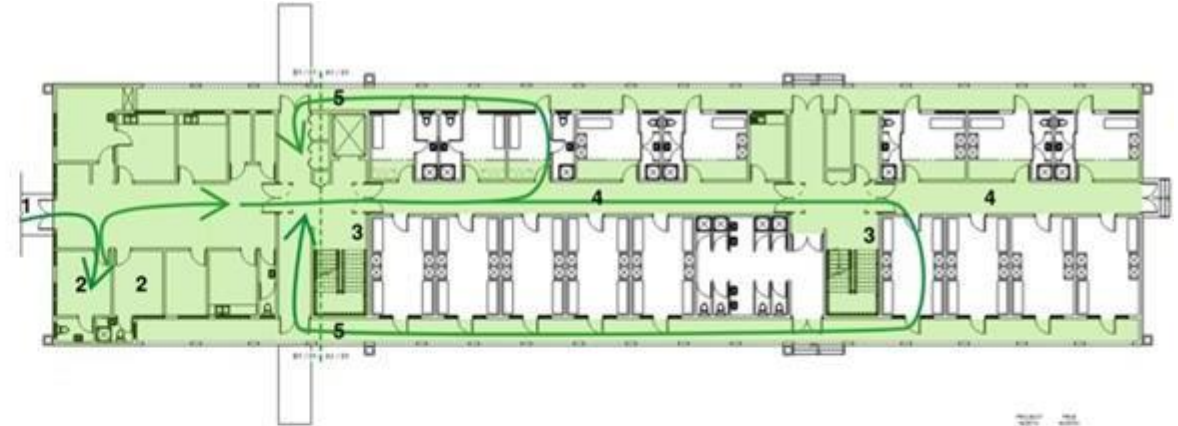
Flows (Patients, Visitors, Staff)

Personal Protective Equipment

Areas categorization



With information presented during the
26th Congress.
Rome, 2022



ONLINE



Ventilation

Strategies to control the airflow direction and to assure the minimum ventilation rate according to WHO standards.



Wind Rose

Segments indicate direction from which the wind blows. Size of segment indicates percentage of time the wind comes from the indicated direction. Colors indicate wind velocity.

Source: www.meteoblue.com

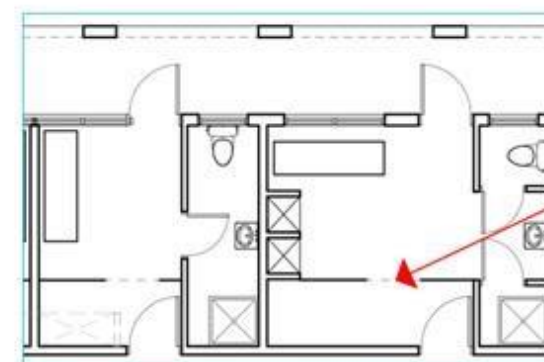
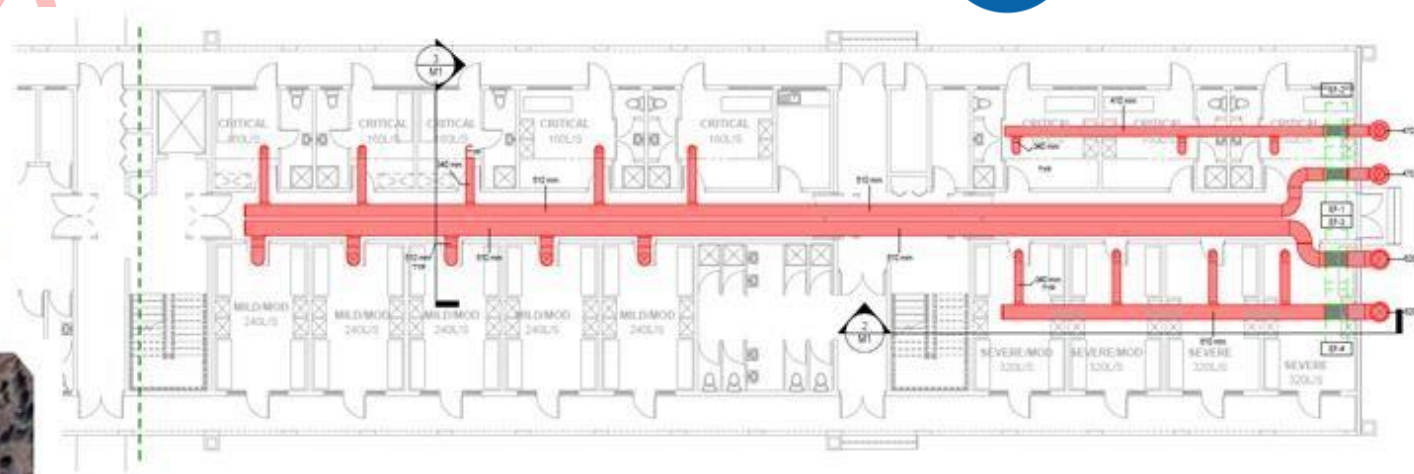


Figure 2 - Enlarged Plan of Patient Rooms



Plexiglass temporary wall and door.



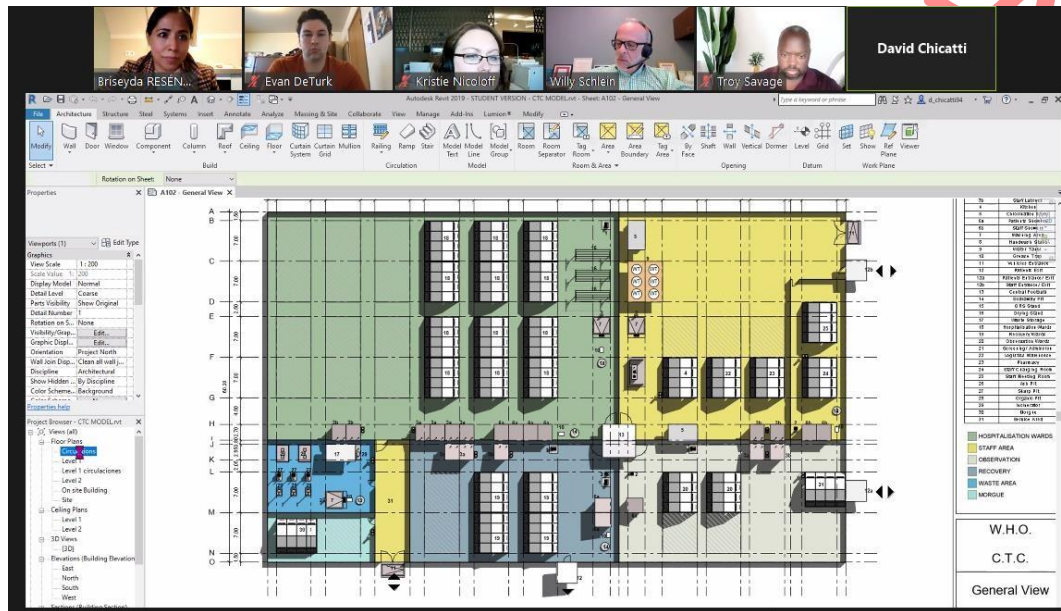
Optional plastic door with clear construction zipper door.

With information presented during the
26th Congress.
Rome, 2022

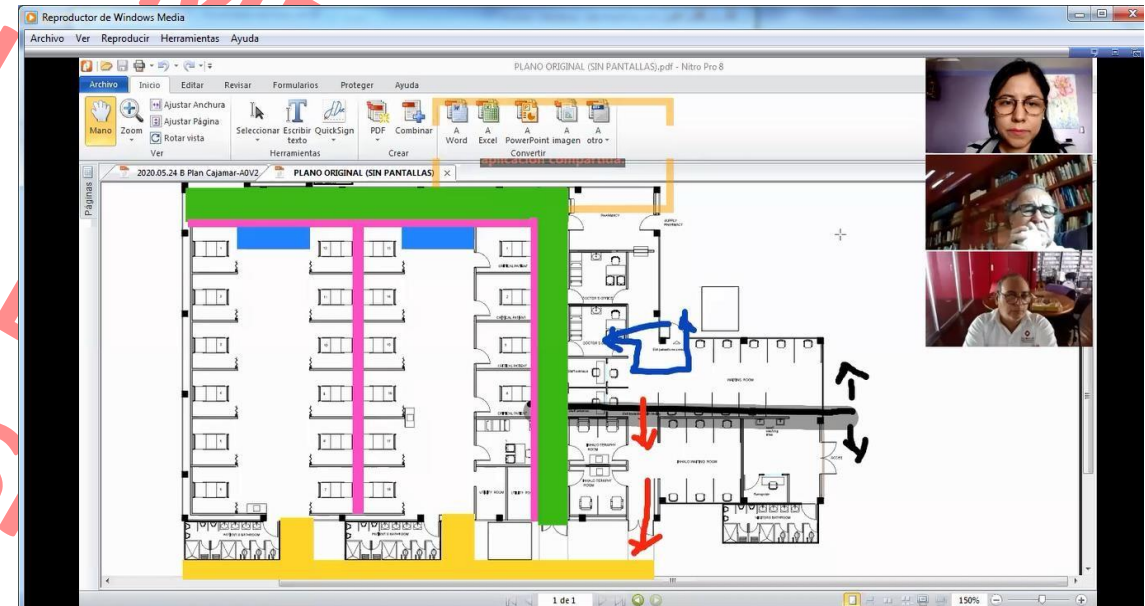
WHO – IFHE - SMAES



INTERNATIONAL
FEDERATION
OF HEALTHCARE
ENGINEERING



Cholera treatment center



2 COVID Unit
Brasil



“DOKU”
ADA

The impact by the #s...

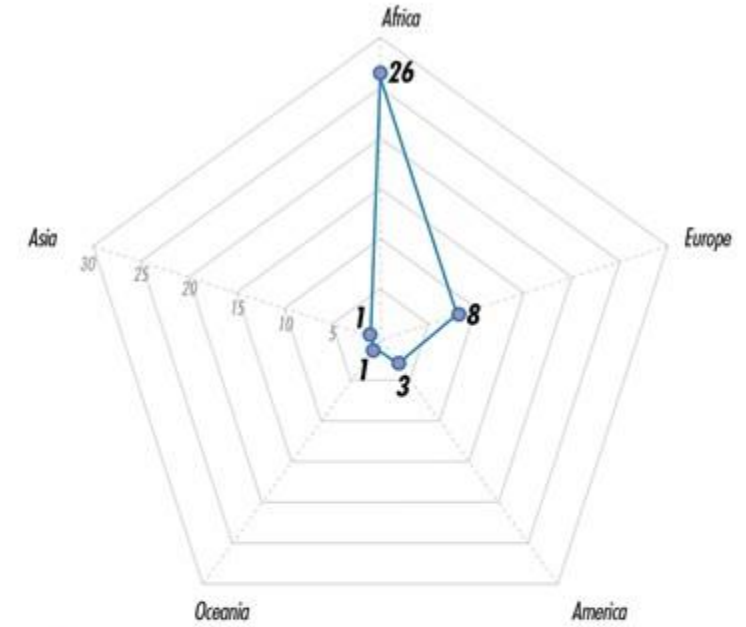
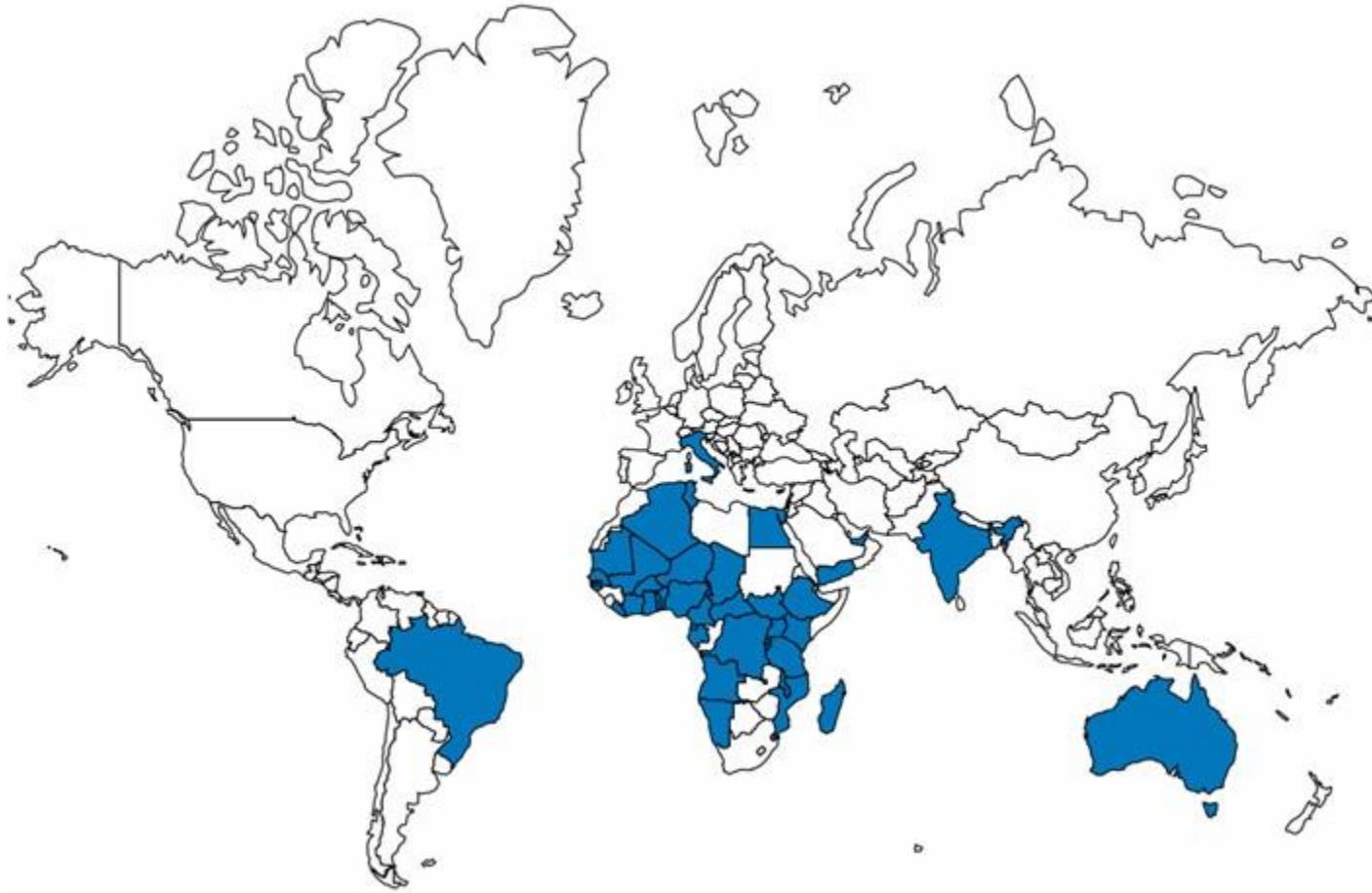


11 COMPLETED &
CURRENT PROJECTS

“LINE”



INTERNATIONAL
FEDERATION
OF HEALTHCARE
ENGINEERING



17 countries supported
3659 beds

ONLINE



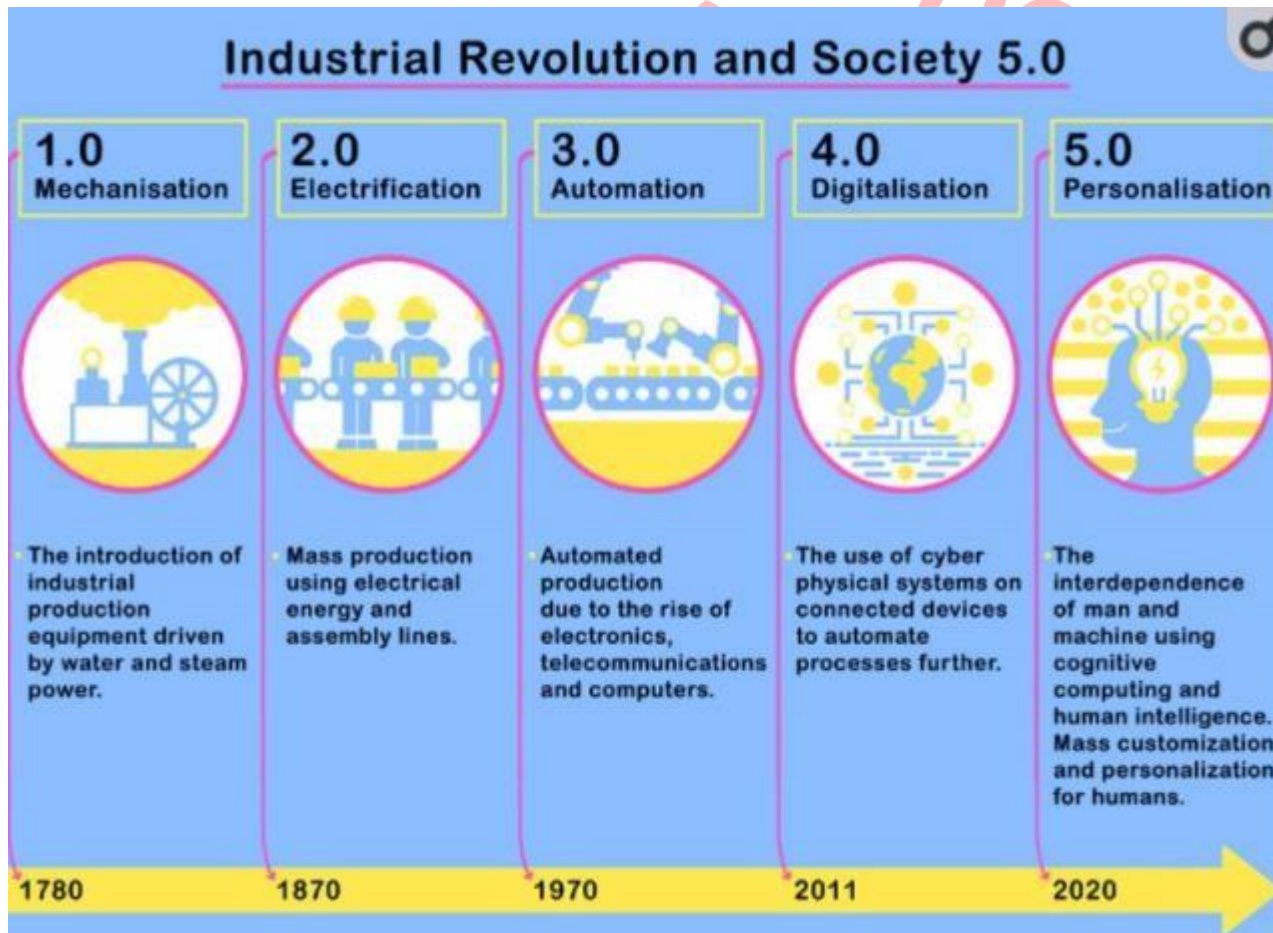
INTERNATIONAL
FEDERATION
OF HEALTHCARE
ENGINEERING



3

¿Industrial revolution 4.0 Era?

- Executive Committee 2020-2022,
- Worldmap,
- Publications



Industry 4.0 technologies

Artificial Intelligence (AI), Big Data (BD), the Internet of Things (IoT), digital platforms, augmented and virtual reality, and 3D printing.

Society 5.0, known as the super-smart society, may be the final bridge between machine and man.

Technologies of Society 5.0, the most important are AI, robotics, 3D printing and digital platforms. BD and AI

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7931290/>

CONCLUSION

- It is our duty to share knowledge to face the challenges that health systems demand of us.

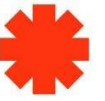
Cross-cutting collaboration between all stakeholders, in a multidisciplinary way, will promote the optimization and better investment of resources for health issues

The great challenge is incorporating technologies to reduce risks and humanize treatments. We must understand technological implementations, such as tools for risk reduction and humanization of treatments



IFHE

Council Meeting, November 2021



HOSPITAL OF THE FUTURE
XVIII INTERNATIONAL CONGRESS SMAES

Nov. 2021
6TH-10TH CDMX
MEXICO CITY

REGENERATE HEALTH WITH
**INTELLIGENCE...
ARTIFICIAL**



**INTERNATIONAL SEMINAR
PROSPECTIVE IFHE-2021**



CAM SAM



cmic

FURUKAWA
ELECTRIC

NOVOTECH

<http://congreso2021.smaesac.org>



Thank You

