

GNV HOSPITAL SHIP
ICU BEDS FOR 100-200 Persons Proposal



**Modular ICU Hospital Ward
(Intensive Care Unit)**



Ref: 2020-094-PPT-001-R0

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OVERVIEW OF QUARANTREAT™ ICU MODULAR HOSPITAL WARD

The Quarantreat™ Modular ICU Hospital Ward is a full-service intensive care unit hospital ward system that can be rapidly deployed as a stand-alone intensive care unit or as an annex to existing hospital services. The typical Ward Wing installation, providing twelve beds, is composed of pre-fabricated, specialized modular structures assembled with "Plug 'n' Play" connectivity so that the medical care officials can customize the hospital to the expected need of a local installation. The standard functional modules are: ICU, Nursing Station, Staff/Administrative Office, Supply Storage, Utility/Machine Room, and Access Corridors and clean PPE changing area.

Hypochlorous acid (HOCl) and HEPA filter systems are used throughout the Quarantreat™ Modular ICU Hospital Ward to sterilize hands, air, and surfaces. FDA-approved natural sanitizer is utilized by the human immune system utilizes this natural sanitizer to defend against infection. By employing this FDA approved natural disinfecting agent, the Quarantreat™ Modular Hospital Ward effectively combats pathogens without harming the humans who use it.



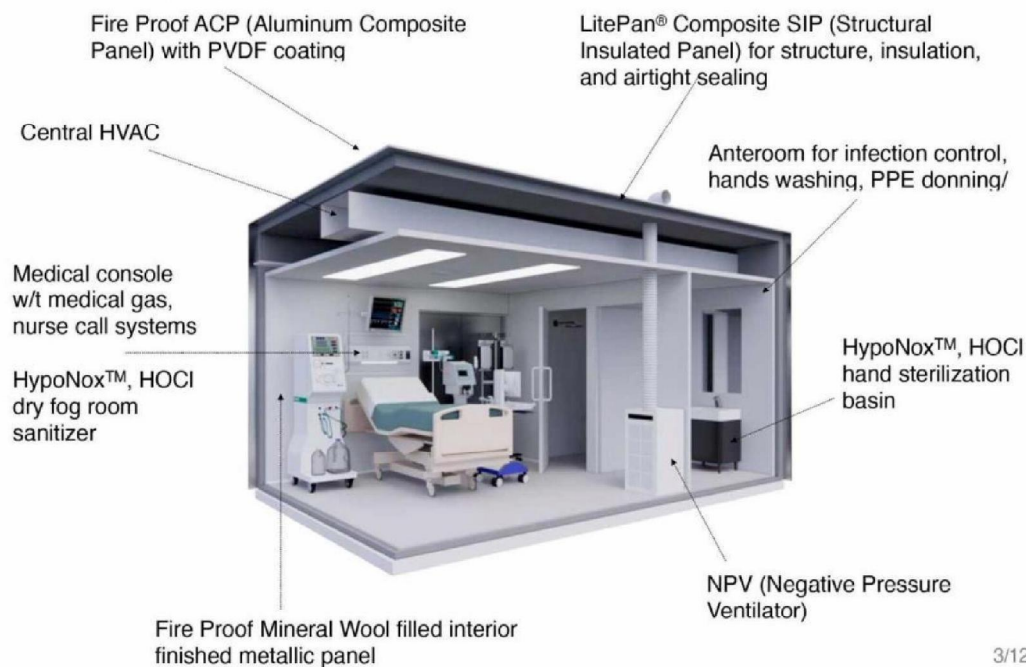
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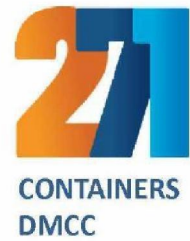
DESIGN AND CONSTRUCTION FEATURES

- Created by experts in hospital design and modular construction with collective experience acting back to 1967
- Medical ventilation systems designed by hospital and clean room experts
- Patient areas controlled by low noise/vibration negative pressure ventilation (NPV) systems to eliminate airborne pathogens
- 21st Century building materials ensure an airtight seal, highly insulated walls free of thermal bridging, light shipping weight, and strong structure suitable for any climate
- Anti-bacterial interior wall finish, zero VOC emission LitePan® composite structure, sound & fire proof interior wall, fire proof metallic exterior finishes
- Advanced modular design systems are energy efficient, cost effective, and of superior design and quality
- Prefabricated modules can be shipped complete by land, sea, or air to anywhere in the world by Flat Rack shipping containers and assembled on location to form a Modular ICU Hospital Ward
- Specialized modules include ICU, Nursing Station, Staff/Administrative Office, Supply Storage, Utility/Machine Room, Access Corridors
- Hospital Grid can be deployed as a stand-alone ICU hospital or attached to existing hospital facilities.



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INTENSIVE CARE UNIT (ICU) MODULE: DESCRIPTION AND FLOOR PLAN

- Each ICU Module features its own negative pressure ventilation (NPV) system to eliminate airborne pathogens and a HypoNox™ Dry Fog sanitation system to sterilize the entire module
- The anteroom provides pressure-controlled access for medical personnel and a HypoNox™ hand sterilizer basin
- The duel-entry design allows direct access to the outside for easy passage of gurneys into and out of the module, while medical personnel enter and exit through the anteroom
- Window to corridor permits visual observation of patient without entering the room
- Private wash room with toilet and wash basin
- Utility closet accessible from outside



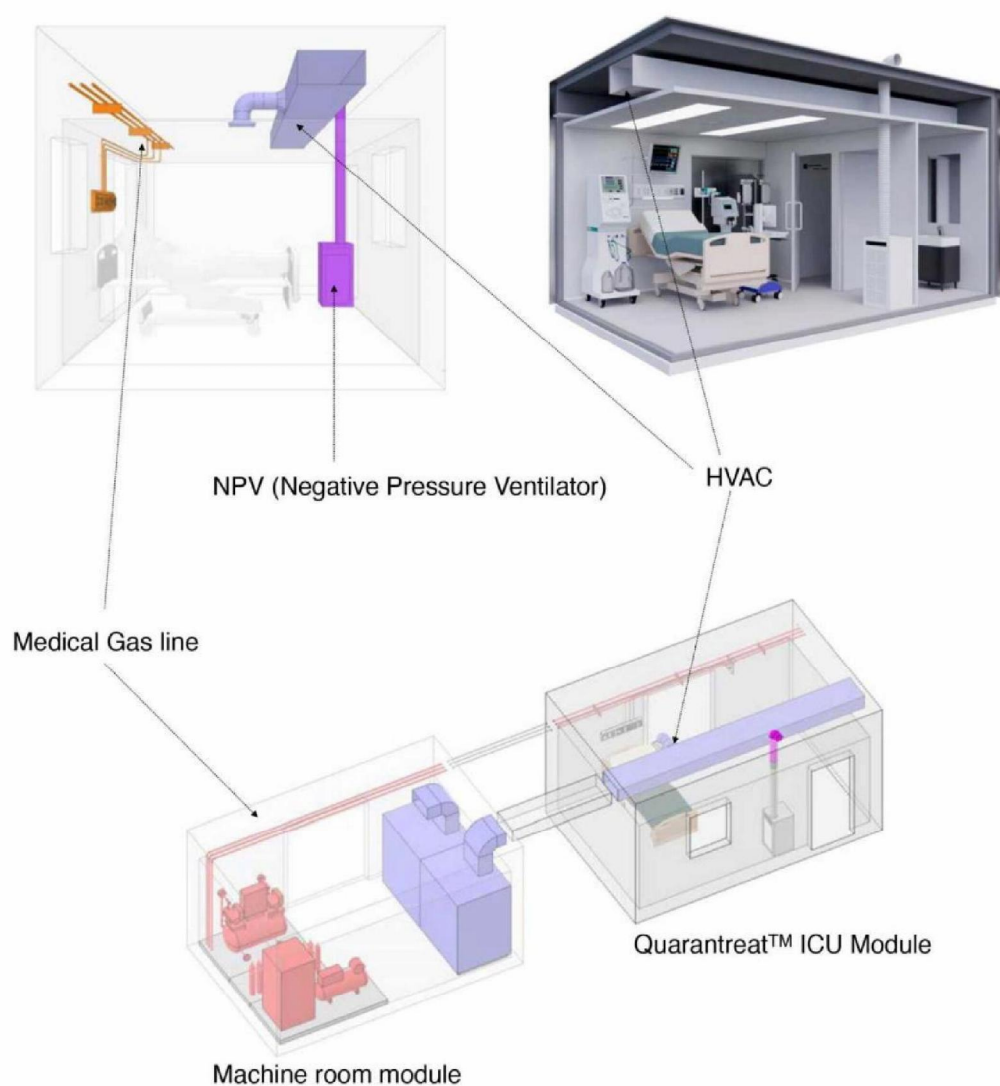
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UTILITIES MANAGEMENT AND CONNECTIVITY

- The HEPA filtered and U/V sterilized HVAC closed loop ventilation system provides the required airborne decontamination environment for each ICU module in the Ward Wing
- The 473 CMH of NPV (Negative Pressure Ventilator) in each ICU reduces the risk of infection to the staff both inside and outside the ICU.
- The Machine Room Module is designed to contain the medical gas compressor and its related units as well as central HVAC, electrical, and plumbing systems
- In the off-grid option, power generation and water treatment processes are located in the Machine Room Module



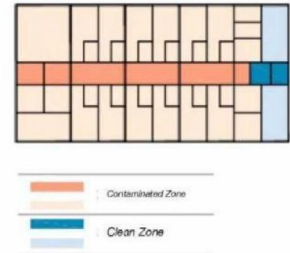
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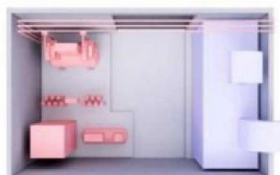
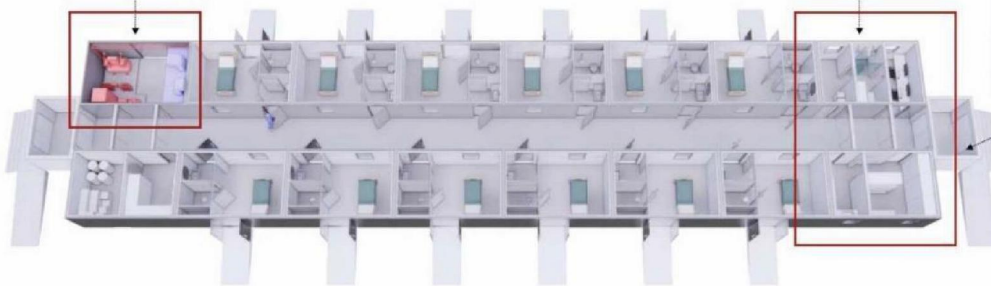
ICU WARD WING LAYOUT

- The standard model ICU Ward Wing comprises 12 ICUs (12 beds)
- Negative pressure is created in each ICU Module
- Additional ICU modules can be added to create a longer Ward Wing with more beds
- Several Ward Wings can be joined to form a larger Modular ICU Hospital Ward

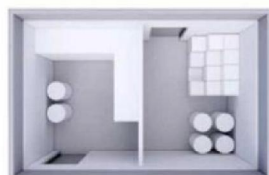


Machine Room Module
(medical gas, HVAC)

Clean Zone Module
PPE change



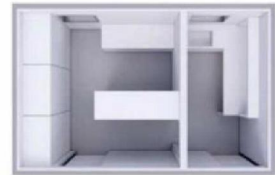
Machine Room Module



Clean Equipment/
Storage Module



Staff / Administration
Module



Nursing Station
Module

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EXTERIOR FINISHING PLAN



Pic) example of Quarantreat™ MIS

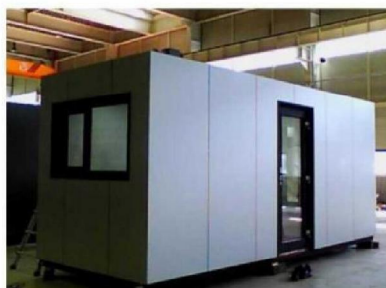
Basic option for exterior

- ASTM E84 Class A fire proof grade
- PVDF coated long life cycle, anti-dust
- Aluminum + non-combustible core composite panel (ACP)
- Various cosmetic color/patterns are available

ENERGY EFFICIENT DESIGN / INSULATION

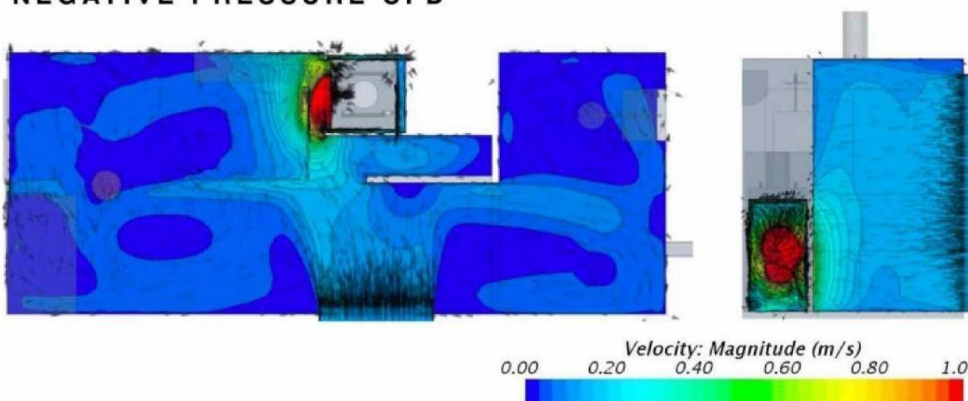


Pic) example of Quarantreat™ MIS



- Quarantreat™ modules boast 1 hour fire proof door and wall system
- Wall structure that eliminates thermal bridging and provides airtight seal assures high energy efficiency and reduces cost to operate

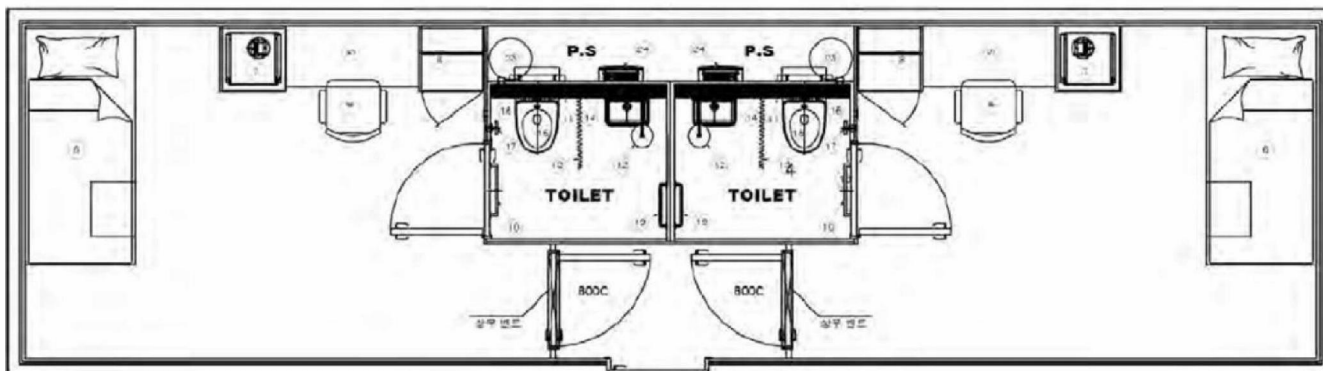
NEGATIVE PRESSURE CFD



- The CFD (Computational Fluid Dynamics) study on Quarantreat™ MIS shows that the Negative Pressure inside of unit is properly managed with higher performance that exceeds hospital regulations.

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Layout Plan of ICU Module



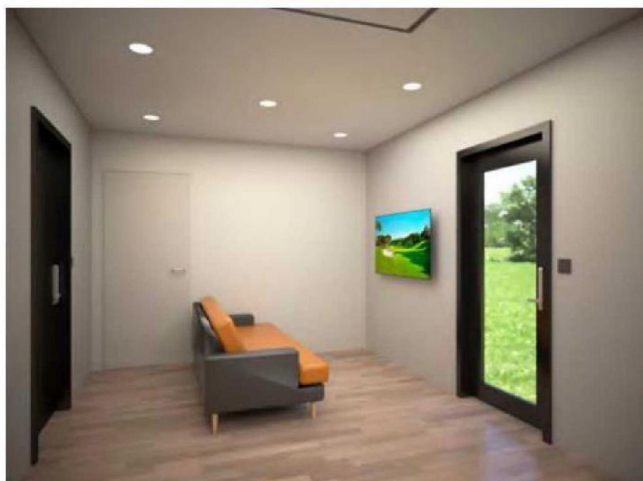
3D Images of ICU module

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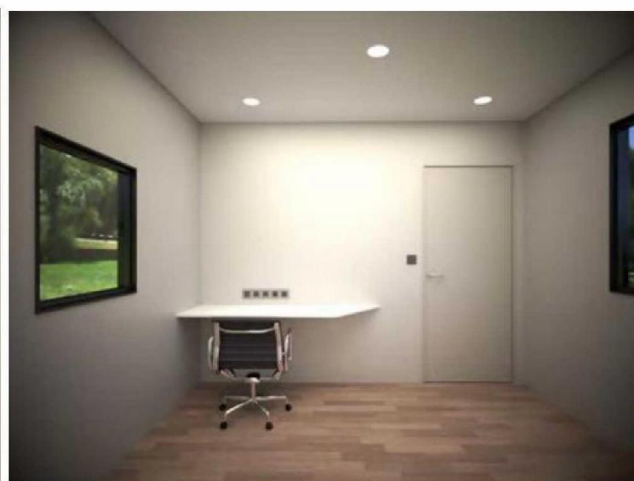
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ICU Module



Interior Image of ICU Module



Interior Image of ICU Module