CITIZEN CARE POD ©
Smart Screening & Testing Pod
version 8.0

WZMH  PCL  Camillion  Microsoft

QUASAR  LORING  STEPHENSON  PARKIN ARCHITECTS
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Citizen Care Pod is a Smart Screening & Testing Pod (SSTP) made from a prefabricated sea container (20’ & 40’ long) retrofitted for use as a facility to conduct tests for viruses such as COVID-19

The SSTP is equipped with 4 to 10 testing stations that physically and safely separates the healthcare ‘tester’ from the public (person being tested and or screened)

The interior space of the SSTP can be outfitted with all the necessary equipment and supplies for testing and analysis within a fully conditioned space

The SSTP includes DC (low voltage) infrastructure to operate all computer equipment include WiFi and is supported from a rooftop solar array connected back to an internal battery system

The SSTP can be installed with a forklift (or positioned in place from a flatbed truck) within minutes of arriving to a site and only needs a separate AC power connection for air conditioning and electric heating (subject to weather conditions, separate ventilation fans are included that operate on DC power - provided by the rooftop solar array and batteries)

Many options are provided for the SSTP which can be easily modified to suit specific site and or client requirements

The SSTP is meant to address the current COVID-19 testing requirements and is also meant for future re-testing in the fall or during the next ‘flu-season’ (or should COVID-19 re-appear in the new year)

The SSTP is designed to be deployed to construction sites, in front of entrances to hospitals, office buildings, schools, places of large gatherings (i.e. sporting events), cultural centres, etc.
THE INTELLIGENT SSTP

- Electrostatic spray nozzle for disinfecting glass and tablet

- Please maintain a minimum of 2 meters between you and the person in front

- 8 people waiting in line - average wait time is 12 minutes

- Tablet provides speaker & microphone as well as:
  - Language translation
  - Instructions on use of testing kit

- Less than 2 meters

- No mask
The SSTP is designed with a backbone of electrical and IT infrastructure to support a wide variety of technology solutions. The infrastructure includes an IT cabinet with sufficient space for multiple racks and other equipment for wired and wireless connectivity. The interior and exterior walls of the SSTP include a number of outlets and junction boxes that include both electrical and data connectivity (including Power over Ethernet) for a wide variety of hardware solutions: security cameras, thermal and people counting cameras, speakers, mounting of tablets / screens and other technologies.

With the use of the infrastructure built into the SSTP, the right hardware and software, the following is a sampling of smart solutions to effectively and efficiently screen people:

1. Cameras to detect if people who are waiting in line are wearing masks – to inform the front-line workers of a potential risk
2. Addition of computer tablets added at the glass window where people would communicate versus talking through the speak hole or be used for language translation and assistance on how to administer self tests (real time translation)
3. Cameras that detect temperature and fevers in people that are being screened at the window
4. Cameras that detect if people are standing a minimum of 6 metres apart when waiting in line – if not, speakers mounted on the unit will inform people to keep a safe distance
5. Occupancy sensors with or without cameras to estimate crowd size of people waiting in line and publish this information to an APP / website

The design and layout of the SSTP with the various technologies provides an ideal scenario to gather data about each person screened (without breaching privacy laws) and use this information in conjunction with AI (Artificial Intelligence) machine learning solutions to develop more pro-active and efficient screening procedures for future pandemics.

The SSTP includes technology provided by the following partners:

- Wireless Connectivity by BAKA
- Asset tracker (solar powered) by TRAK IT by BAKA
- Computer hardware and IOT Edge Gateway device by DELL
- Video sensors with onboard analytics for crowd detection and communication systems by BOSCH
- Efficient HVAC systems and compact water heaters by BOSCH
- Temperature, pressure and humidity monitoring and alerting (inside the SSTP) by PCL Job Site Insight
- Cloud enabled IOT and AI platform by MICROSOFT AZURE
- IoT enabled connected sanitizer dispenser that provides analytics on product usage and dispensing
- AI and IOT Solution platform by INSIGHT
OPTION 1 Recessed Cubicles

LEGEND

A  AUTOMATIC SLIDING DOOR (ALUMINUM & GLASS)
B  SECURITY CARD READER (ENTRY / EXIT)
C  HAND SANITIZER
D  HAND WASHING STATION (BUILT IN WATER TANK)
E  BIOHAZARD WASTE RECEPTACLE
F  STORAGE CABINET (METAL)
G  WATER COOLER
H  BATTERY STORAGE
J  COUNTER (STAINLESS STEEL OR MANUFACTURED STONE)
K  ELECTRICAL PANEL
L  IT/COMMUNICATIONS CABINET
M  SPEAK HOLE (BUFFERED)
N  GLASS WINDOW (DOUBLE GLAZED)
R  DIVIDER (PLEXI-GLASS OR GLASS OR SOLID PANEL)
S  FLOORING WITH INTEGRAL BASE (ONE PIECE VINYL OR LINOLEUM)
T  ALUMINUM MULLION (THERMALLY BROKEN)
U  RAMP (PORTABLE)
OPTION 1 Recessed Cubicles
OPTION 2 Cubicles under Canopy

LEGEND

A. AUTOMATIC SLIDING DOOR (ALUMINUM & GLASS)
B. SECURITY CARD READER (ENTRY / EXIT)
C. HAND SANITIZER
D. HAND WASHING STATION (BUILT IN WATER TANK)
E. BIOHAZARD WASTE RECEPTACLE
F. STORAGE CABINET (METAL)
G. WATER COOLER
H. BATTERY STORAGE
J. COUNTER (STAINLESS STEEL OR MANUFACTURED STONE)
K. ELECTRICAL PANEL
L. IT/COMMUNICATIONS CABINET
M. SPEAK HOLE (BUFFERED)
N. GLASS WINDOW (DOUBLE GLAZED)
R. DIVIDER (PLEXI-GLASS OR GLASS OR SOLID PANEL)
S. FLOORING WITH INTEGRAL BASE (ONE PIECE VINYL OR LINOLEUM)
T. ALUMINUM MULLION (THERMALLY BROKEN)
OPTION 3 Drive-Through

LEGEND

A AUTOMATIC SLIDING DOOR (ALUMINUM & GLASS)
B SECURITY CARD READER (ENTRY / EXIT)
C HAND SANITIZER
D HAND WASHING STATION (BUILT IN WATER TANK)
E BIOHAZARD WASTE RECEPTACLE
F STORAGE CABINET (METAL)
G WATER COOLER
H BATTERY STORAGE
J COUNTER (STAINLESS STEEL OR MANUFACTURED STONE)
K ELECTRICAL PANEL
L IT/COMMUNICATIONS CABINET
M SPEAK HOLE (BUFFERED)
N GLASS WINDOW (DOUBLE GLAZED)
S FLOORING WITH INTEGRAL BASE (ONE PIECE VINYL OR LINOLEUM)
T ALUMINUM MULLION (THERMALLY BROKEN)
U STEEL BOLLARD
V CONCRETE BASE WITH STEEL PERIMETER CURB
OPTION 4 Pass-Through Unit / Secure Testing

LEGEND

A SWING DOOR WITH AUTO DOOR OPERATOR
B SECURITY CARD READER (ENTRY / EXIT)
C HAND SANITIZER
D BIOHAZARD WASTE RECEPTACLE
E STORAGE CABINET (METAL)
F COUNTER (STAINLESS STEEL OR MANUFACTURED STONE)
G ELECTRICAL PANEL
H IT/COMMUNICATIONS CABINET
J SPEAK HOLE (BUFFERED)
K GLASS WINDOW (DOUBLE GLAZED)
L DIVIDER (PLEX-GLASS OR GLASS OR SOLID PANEL)
M FLOORING WITH INTEGRAL BASE (ONE PIECE VINYL OR LINOLEUM)
N ALUMINUM MULLION (THERMALLY BROKEN)
O CANOPY ABOVE
P RAMP (PORTABLE)
Q BARRIER FREE LEDGE
R ALUMINUM CHECKER STEEL PLATE FLOORING
OPTION 5 Single and Dual Person Compact Unit

This unit can be a single or dual person module, it is very light and constructed from a plastic pallet base (4-way forklift access) and pre-manufactured/finished steel and insulated panels and is meant to be installed in any location - outdoors and indoors.
OPTION 5 Single and Dual Person Compact Unit

LEGEND

A SWING DOOR
B COUNTER
C HAND SANITIZER
D WINDOW (PLEXI-GLASS)
E STORAGE CABINET (METAL)
F CANOPY ABOVE
G AIR CONDITIONER
H LIGHT FIXTURE
J VENT
K POWER CONNECTION FOR AC/HEATING
L SPEAK HOLE (BUFFERED)
M PALLET (PLASTIC)
N INSULATED METAL PANEL
P THERMAL CAMERA

FORKLIFT PLANS
FRONT ELEVATION
SIDE ELEVATION
BACK ELEVATION
The SSTP can be reconfigured to include both a screening / testing and laboratory space within the unit. For a 40’ long unit, half of the space is dedicated to the testing area which provides up to 4 separate testing / screening windows and the other half of the unit is a 20’ long lab space with a separate entrance.

Screening and tests that require a lab environment can be completed in one location - within the SSTP. This solution is ideal for locations where tests are required to be sent back to a lab that is located far from the testing site or results are required soon after the tests are completed with the patient.
In locations where testing is required to service smaller populations and a laboratory is far from the site, the 20’ long unit can be reconfigured to accommodate a small lab and screening/testing area.
The 40’ long SSTP can be designed to accommodate windows for people that walk-up to the unit (on both sides of the unit) or can include a variety of options that include two windows on one side or both sides for vehicles as a drive-through solution.
OPTION 7  40’ Long Screening & Testing Pod

LEGEND

A  SWING DOOR WITH AUTO OPERATOR
B  SECURITY CARD READER (ENTRY/EXIT)
C  HAND SANITIZER
D  SINK (BUILT IN WATER TANK)
F  STORAGE CABINET (METAL)
G  WATER COOLER
H  BIOSAFETY CABINET
J  COUNTER (STAINLESS STEEL OR MANUFACTURED STONE)
K  ELECTRICAL PANEL
L  IT/COMMUNICATIONS CABINET
M  SPEAK HOLE (BUFFERED)
N  GLASS WINDOW (DOUBLE GLAZED)
P  UNDERCOUNTER MEDICAL FRIDGE
S  FLOORING WITH INTEGRAL BASE (ONE PIECE VINYL OR LINOLEUM)
U  SAMPLE HOLDING CART
V  LAB / TESTING EQUIPMENT COUNTER
W  SLIDING DOOR
X  RESTING BED
Y  RELAXING CHAIR
OPTION 8 Mobile SSTP

The SSTP can be located on top of a mobile tractor trailer ("lowboy") with a small generator and portable washroom (for staff of the SSTP) and positioned and ready for use upon the truck arriving on site. Portable light-weight stairs and guard rails are positioned in place to allow people safe access to the screening windows.

The intent of this solution is to allow for quick deployment and re-deployment the same day. It is envisioned that the use of this option would be for general screening and testing for the general public in both urban and rural settings.

People can find the closest location of the SSTP by logging into an APP, typing in their postal code and can register in advance or simply visit the SSTP for an unscheduled screen / test. The APP will identify wait times in advance of people arriving to be screened or tested by use of the technology (cameras) located at the SSTP that are designed for people counting and wait times.
INSTALLATION OF THE SSTP OUTSIDE OF AN OFFICE BUILDING

EXAMPLE INSTALLATION
INSTALLATION

The SSTP is a standard sea container that can be delivered to site via truck and flatbed, flown into remote locations. Once delivered to site, the SSTP is positioned in place with lowering the flatbed or forklift or crane. All options are essentially complete when delivered except for installing portable ramps for barrier free accessibility.

Several options include a fold down canopy that is positioned in place once the unit is installed in the final location.

All options can be equipped with roof top solar arrays that provide DC (low-voltage power) to all interior components with the exception of the air conditioning and the electric heating - an outlet is located on the exterior of the unit for a 50A - 120V connection.

For all options, once the SSTP unit is in place and depending on the location and use, security stanchions / crowd control barriers with retractable belts may be required.

KEY COMPONENTS

1. 8’ x 20’ long x 9’-6” high sea container - doors to be removed
2. Roof of the sea container to be sealed to prevent any water infiltration
3. All exterior walls (inside surface), underside of floor and underside of roof to be insulated (spray insulation)
4. All exterior walls (inside surface) to be furled out to allow for spray insulation
5. All interior walls and ceiling to be finished with mold resistant gypsum board and covered with fibreglass reinforced panels
6. Windows to be double glazed (tempered glass for exterior lite) in thermally broken frames (glazed from the exterior)
7. All infill metal siding to match the sea container or be prefinished steel siding (similar profile)
8. All exterior steel / metal components to be painted white
9. Entrance doors to be automatic sliding, single glazed, tempered glass with breakaway for emergency exit
10. Rooftop solar array consisting of 6 panels, 60 cell - 300 W
11. Air-conditioner to be roof mounted, recreational vehicle quality, heavy duty
12. Wall mounted industrial style exterior light fixtures
13. Thermal cameras located at each cubicle
14. Continuous sheet flooring with integral base from either linoleum or vinyl (no seams)
15. Counters from stainless steel or manufactured stone on plywood support (grommet located in counter at each seat)
16. ‘Wiremold’ raceway for all items that require power and data
17. Recessed pot lights within the ceiling cavity located above each seat and within the open space
18. All fixtures, furnishings and equipment as shown on plans including coat hooks on wall and under counter at each seat
19. Windows to include speak hole, secure pass-through and biohazard gloves (if required)
20. Steel ballasts (Galvanized), concrete filled at corners of pad / curb for Option 2
21. Foldable steel sheet canopy with collapsible arms for Option 2 (painted white) with integrated slim gutter at edge
22. Glass or plex-glass or solid phenolic divider panels in aluminum u-channel frame for Option 1
23. Demountable solid phenolic panels in aluminum u-channel frame for Option 2
24. Exterior grade security stanchions / crowd control barriers with retractable belts
25. DC (low voltage) ventilation fans (2 per unit), recreational vehicle quality, heavy duty
26. Card access security system