



Open Source Medical Supplies–British Columbia (OSMS-BC)

Last updated 2020-08-12

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PART I. OSMS-BC INFORMATION

Introduction

The Problem

COVID19 is currently spreading exponentially, in a mostly-unchecked fashion, throughout the world. A major problem is that hospitals are running out of PPE and ventilators as well as other medical supplies and devices. 15-20% of people who get the disease require hospitalization. Treatment and care looks like oxygen therapy or intubation for weeks in highly-specialized ICUs. Medical professionals are at severe risk while treating these highly infectious patients, and have an order of magnitude higher mortality rate than the patients themselves. Please refer to the global [OSMS Main Document](#) for the latest [updated 04-02].

Goal and Strategies

Our goal is to help prevent the spread of COVID19 by assisting with manufacturing of Protective Personal Equipment (PPE) and whatever treatment and diagnostic equipment is needed.

To achieve this goal, OSMS-BC acts as a primary point of contact for the British Columbian Hardware Engineering and Manufacturing community to communicate with global efforts, our Canadian and US counterparts, the Canadian Government, the BC Government, local hospitals, and Tier 1 medical device manufacturers. OSMS-BC is the regional chapter of the OSMS (“the mothership”), a global movement. Our work is integrated with this global program.

Our strategies are to:

1. Keep track of all BC-based COVID19 engineering/maker/hacker/manufacturing projects (non-corporate, corporate, government, and hospital-based)
2. Analyze and understand the most urgent and important engineering and manufacturing priorities/needs for our hospital, health, and government partners.
3. Support all BC-based COVID19 projects through these services:
 - 3.1. Sending documentation to the OSMS mothership (so that the info can be used worldwide to save lives)
 - 3.2. Providing technical documentation volunteers and completed documentation using OSMS templates and standards
 - 3.3. Assistance in locating manufacturers and material suppliers
 - 3.4. Getting feedback from BC-wide healthcare and doctors
 - 3.5. Sending our funnel of engineering volunteers to BC-based projects based on NEED.
 - 3.6. Preventing projects from tripping over each other.
 - 3.7. Keeping things lean, keeping bureaucratic bloat to a minimum.

About This Document

This is the main document for OSMS-BC. It summarizes and links to COVID19-related engineering and manufacturing efforts in BC. OSMS-BC compiles information directly from manufacturing companies, groups, and universities about the COVID19 related projects they are working on, and information from frontline workers on what supplies and medical devices are needed the most. This enables people to match services with needs and vice versa, allows projects to be focused on what's most urgently needed, prevents duplication of efforts, and improves efficiencies. Please share this document with anyone in the industry who can contribute or may be interested.

Primary Contacts

Name	E-mail	Phone Number	Role
Leigh Christie	leigh@mistywest.com	(857) 210-8616	Interim Director
vacant	vacant	vacant	OSMS Mothership Liaison
Justin Park	jmhpark1@gmail.com	(778) 879-3781	OSMS Mothership Liaison
Colin Doylend	colin@questioneverything.com	(888) 820-1265	Corporate Relations and Grants
Victoria Schuster	vschuster@alumni.shawnigan.ca	(250)317-0021	Design Team & Manufacturing Outreach and Onboarding
Yajur Sondhi	yajurson@gmail.com	7789297244	Marketing (internal and external)
Marcus Ewert-Johns	Marcus@manufacturingbc.org	(778) 875-4889	Manufacturing BC Liaison
John McPherson	jmcpherson@vancouvereconomic.com	(604) 363-8606	Government Liaison

The [Volunteers OSMS-BC](#) spreadsheet includes these primary contacts plus other volunteers. **Please add yourself to the spreadsheet, including your time commitment and your area of expertise.**

Our Partners and other Design teams in BC

Partner/Design Team	Focus	OSMS-BC Liaison	Contact	OSMS-BC Will Help Them With:
OSMS	Global Open Source Documentation of Covid19 projects	Leigh and ???		
BCBC & Emergency Management BC	BC business, cabinet Portal to Connect Needs with Supply, coordinating responses COVID19 Supply Hub	Leigh	Andrew Wynn-williams (Canadian Manufacturers & Exporter) David Labistour?	They will connect OSMS with their contacts
VMERS Vancouver Makers for Emergency Response & Support	Vancouver based		Robert Warner VMERS facebook group	Our closest partner. List of best open source designs, BC wide.
Provincial Health Services Authority : Supply Chain + KPMG	? See link for contact info Monica Feregrino <Mferegrino@redioptions.com>	Leigh	Monica Feregrino	This is the group we need interact with to determine needs on the ground
LSBC		Leigh	Wendy	
Ministry of Health BC		Leigh	Jan Butler	

Additional Partners and Partner Contacts

- Public Works and Government Services Canada - [Buy and Sell](#)
- Traction on Demand (platform developer)
- Digital Tech Supercluster
- BC Cleantech CEO Alliance (Manufacturing facilities)

Key OSMS Documents and Links

OSMS-BC [Web Site](#) [Facebook Group](#) [Twitter](#) [LinkedIn](#) [Meeting Minutes](#)

OSMS-BC Main Spreadsheets:

- [Volunteers](#)
- [What is Specifically Needed in BC](#)
- [Design Teams](#)

- [BC Manufacturers](#)
- [Express Interest](#)

Global OSMS [Main Document](#) [Web Site](#) [Facebook Group](#)

VMERS [Facebook Page](#) [Facebook Group](#).

(Vancouver Makers for Emergency Response and Support)

NEEDS: Medical Supplies That Are Needed

What is Needed in BC

Personal Protective Equipment is in demand at all BC health care facilities. Fundamental PPE includes gloves, goggles, masks, N95 respirators, gowns, and disinfectant. The primary source of information on BC needs is the [BC Government's COVID19 Supply Hub](#).

In addition to helping address ongoing needs, OSMS-BC addresses needs for specific or advanced equipment. **Please add these specific needs to the spreadsheet [List of what is specifically needed in BC](#).**

Needs-Tracking Websites and Lists

- BC Government [COVID19 Supply Hub](#)
- VMERS [Hospital Needs](#)
- Government of Canada [Buy and Sell](#)
- Safe Care BC: [Operation Protect](#) for long-term care facilities and home and community care providers
- Matching PPE needs and donations:
 - [HLI- St Paul's Hospital donation list](#)
 - Life Science BC Submission Forms: ["Needs"](#) and ["Haves"](#)

SUPPLY: BC Engineering and Manufacturing Companies Working on COVID19 Related Medical Supplies

Manufacturers and Supply Chain

Information on BC manufacturers is in the [BC Manufacturers](#) spreadsheet
Please fill out [this google form](#) for your company to be added.

Projects and Design Teams

Information on BC COVID19 projects is in the [Design Teams](#) spreadsheet. Please add your group or company to the bottom of the spreadsheet.

Express an Interest in Helping Fight COVID19

If you or your company have an interest in helping with the fight against COVID19 and are not currently doing so, please add your information to the bottom of the [Expressed Interest](#) spreadsheet.

Links

- Developing concepts: [MistyWest](#) (contact leigh@mistywest.com)
 - Consortium with [Keirton](#)
- Expedited device licensing--Government of Canada portal:
hc.devicelicensing-homologationinstruments.sc@canada.ca.

PART II. TECHNICAL KNOWLEDGE

Global OSMS Technical Knowledge Pages

Each of the following links directs to a resource page with more detailed information, including designs that have been vetted by a team of medical professionals. Please note that this review process is not equivalent to any government or regulatory review process.

Disclaimer: These pages are a work in progress and some are fairly bare.

PPE

- [Hand Sanitizer](#)
- [N95 Respirators](#)
- [Surgical Face Masks](#)
- [Mask Straps \(aka Ear Savers\)](#)
- [Goggles / Masks](#)
- [Powered Air Purifying Respirators \(PAPR/CAPR\)](#)
- [Examination Gloves](#)
- [Gowns](#)
- [Face Shields](#) (Full Face Protection / FFP)
- [Ambu-bags](#) - needed for several of the open source vent projects.

- [Intubation Boxes](#) (aka Aerosol Boxes)

Medical Supplies

- [Nasal Cannulas](#)
- [Catheters](#)
- [Flow-Splitters for Oxygen Supply](#)
- [Thorpe Tube Flowmeter](#)
- [Oxygen Masks](#)
- [Venturi Masks](#) (High Flow)

Devices

- [Negative Pressure Rooms](#)
- [Non-Contact Thermometers](#)
- [Ventilator Machines](#) (find rankings [here](#))
 - Ventilator Circuits
 - Endotracheal Tubes
- [Hospital Beds](#)
- [Oxygen Concentrators](#)
- [Pulse Oximeters](#)
- [Non-Heated Humidifier](#) (aka Cool-Mist)
- [Laryngoscopes](#)
 - McGrath Blades
 - Glidescope Blades
- [UV Sterilization Devices](#)
- [Infusion Pumps](#)

British Columbia OSMS Technical Documentation

OSMS-BC Tech Knowledge Pages (WIP)

These are pages which we have edit access for:

- Bubble Helmet Ventilators (aka CPAP helmets)
- [UV Sterilization Devices](#)
- [Remote Patient Monitoring](#)
- [Ambu-bags](#)
- [Intubation Boxes](#) (aka Aerosol Boxes)

Documentation Approval Flow Chart

Yajur to upload final concept on the 3rd of April

Current Outline

https://docs.google.com/drawings/d/1GpUufj9Qlip-sWxdoW_WXDplYxNWXH-hjnkJnAgN9MA/edit?usp=sharing

OSMS BC Tech Knowledge Pages Ready for Mothership OSMS

Best Practice Guides and Reference Documents

OSMS

- Table summarizing manufacturing and material needs for medical supply items ([Link to Download PDF](#))
- FAQs, Glossary, and Acronyms are in the [Global OSMS's main document](#)

VMERS

- [No Contact Delivery Protocols](#)
- [Tracking BC Public Health COVID Response](#)

Other

- [COVID19 DIY PPE Design Comfort Checklist](#)