CELTIC-NEXT
Project Proposal Pitch

5th of October 2023, Online

BOW
ROBOTICS SOFTWARE PLATFORM

Robot Agnostic Software

Daniel Camilleri, CEO, BOW
daniel.camilleri@bow.ltd

Teaser

There are two solutions to the removal of mines and unexploded ordnance.

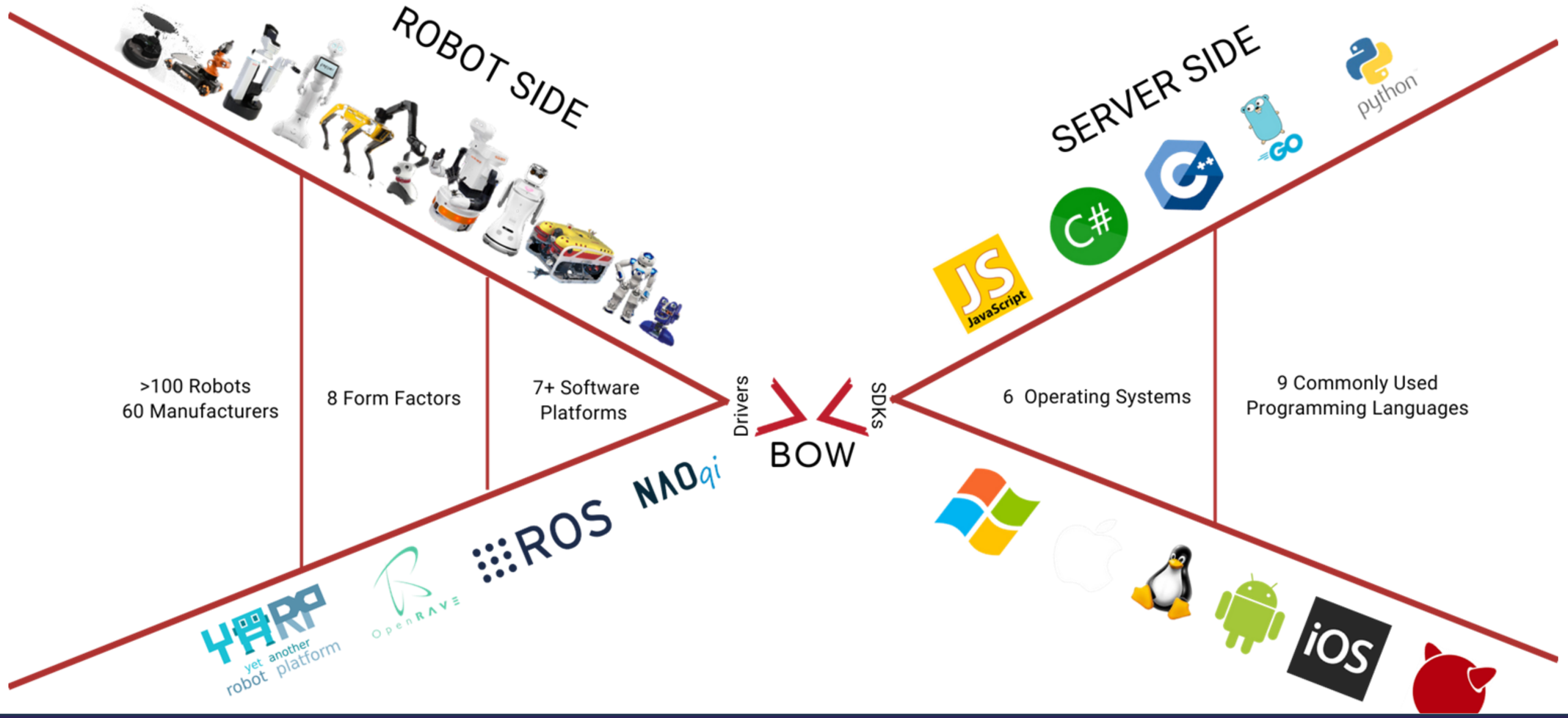
Quick and Dirty

Slow and Tedious

BOW proposes a third approach

Daniel Camilleri, BOW,
daniel.camilleri@bow.ltd

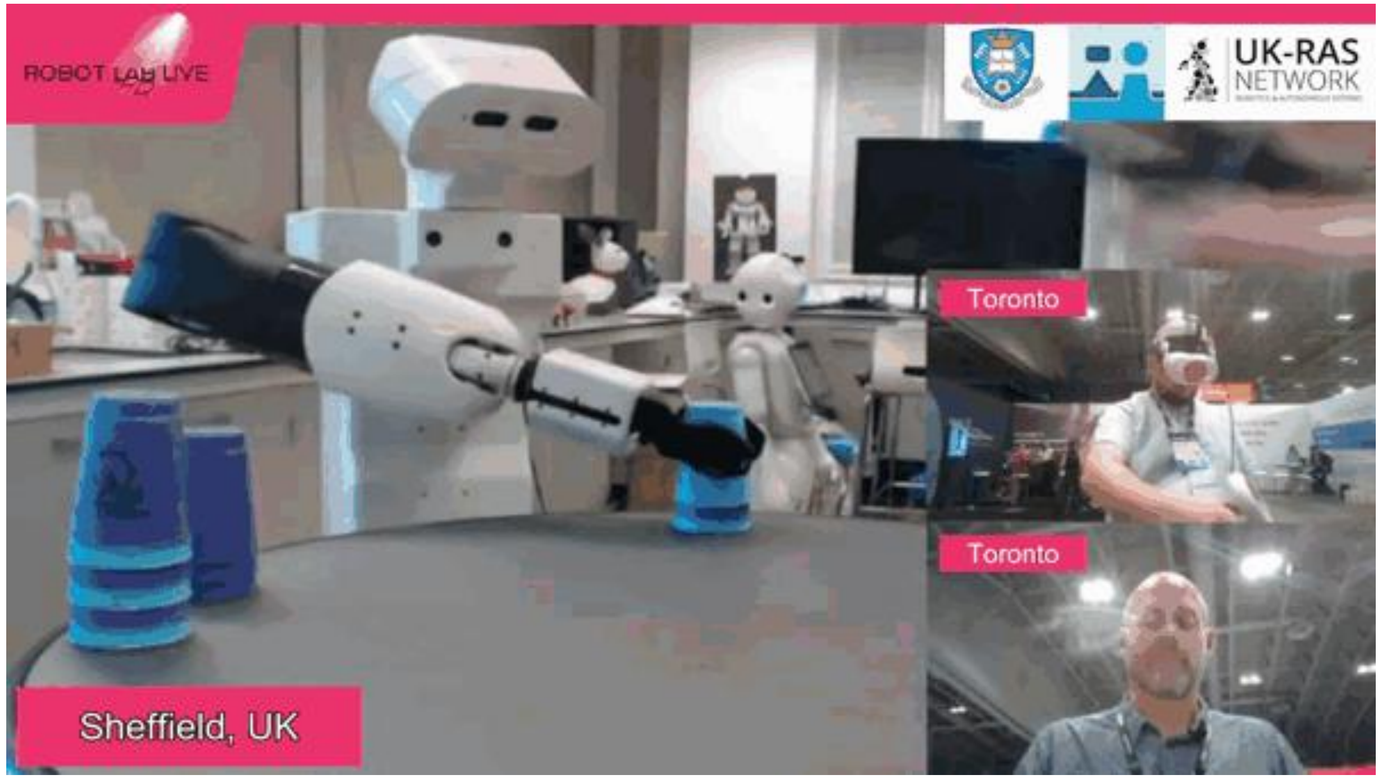
Organisation Profile



Daniel Camilleri, BOW,
daniel.camilleri@bow.ltd

Organisation Profile

BOW has existing capabilities in trans-continental teleoperation and low-latency control.



Daniel Camilleri, BOW,
daniel.camilleri@bow.ltd

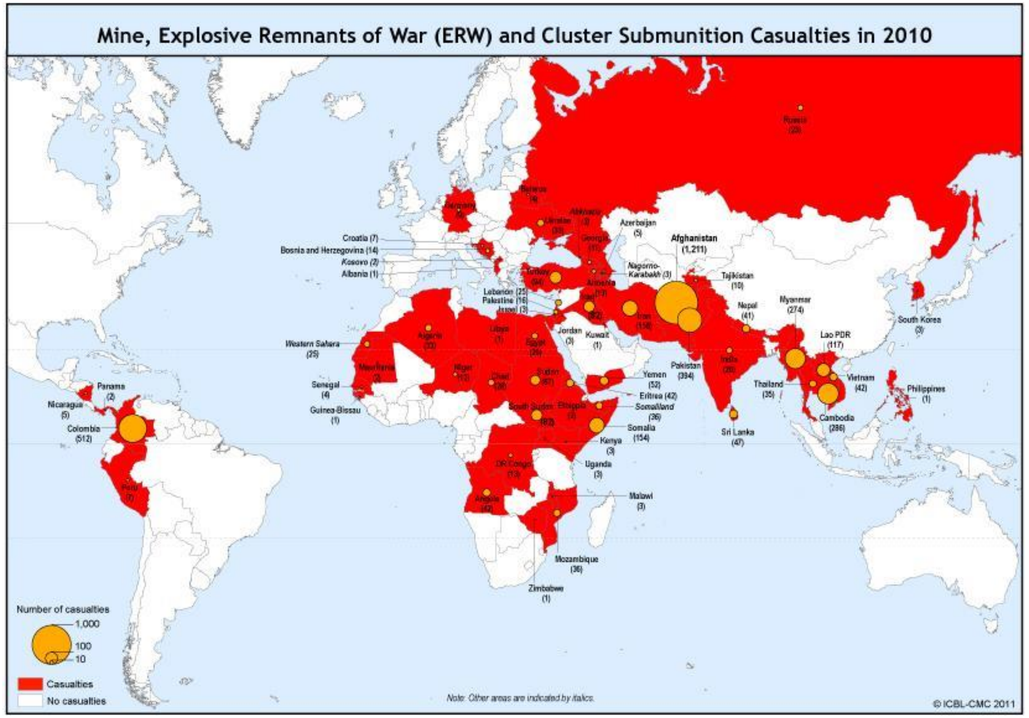
Proposal Introduction

10 million mines, 64 countries
>1000 deaths / month

Destructive demining
- 500 sq.m / machine / day
- Significant pollution to surrounding areas

Manual demining
- 10-50 sq.m / person / day at great risk.
- 90% searching, 10% decommissioning
- Demined area can be reused for agriculture

Robot Demining
- One person can control multiple robots
- Multiple robots doing search then calling back to person for demining



Proposal Introduction

- Proposal brings together 3 companies in 2 countries to create a rugged bimanual robot with very high dexterity
- Robot agnostic software will enable this robot platform to be used for demining, stocking shelves and agriculture
- AI capabilities built-in so robot can learn from demonstration
- Mixed modality sensing with metal detection or ground penetrating radar

Daniel Camilleri, BOW,
daniel.camilleri@bow.ltd

Proposal Introduction

- Distributed AI across different robots with centralised hub
- Training data generated by operator controlling robot combined into single corpus
- Collected data used to train humans and combine best practices across multiple deminers

Daniel Camilleri, BOW,
daniel.camilleri@bow.ltd

Partners

Sarcomere Dynamics, Canada

- Rugged dexterous hands driven by shape memory alloys
- Can be uniquely used in wet environments
- First hand experience in EOD

Daniel Camilleri, BOW,
daniel.camilleri@bow.ltd

Partners

Aro Robotic Systems, Canada

- Autonomous base capable of object avoidance, mapping and navigation planning

- Hardware capability to create rugged and offroad autonomous platforms

Open to Collaboration

Looking for a 4th partner to join maybe from Ukraine, Germany or Poland.

We are open to collaborating with others in providing easier ways of programming and deploying robotics applications.

Interested in any application of robotics

Contact Info

For more information and for interest to participate please contact:

Daniel Camilleri
daniel.camilleri@bow.ltd
+44 (0)7742 696 234
BOW, Sheffield Technology Parks, Sheffield, S1 2NS
https://www.usebow.com

Presentation available via: