



3D MGSE

by MURB Space

“What you need is what you get”



It's a great pleasure to present you the 3D MGSE delivered by MURB Space.

I am happy to present our product which can help you reduce time and money needed to build your satellite.

In the world of upcoming mega constellations of small satellites we should care both about the efficiency and the quality. **Do you know how much time it takes to assemble a small satellite?** Months, years? There might be several answers, but none of them would be hours or days. However, let's try to make the “impossible deadline” possible.

The **process optimization** is the key driver in achieving the cost reduction and the improvement of resource utilization. **Would you like to save time without affecting the quality and safety requirements?** If your answer is “yes”, let me tell you how you could save a lot — depending on the design of your satellite, we can talk about 60-80% of saved time!

Sounds good? What about the test campaigns? **Would you like to improve your testing procedures? What about performing a flat-sat tests when your satellite is not yet fully integrated?**

The 3D MGSE is a device created to both facilitate and shorten the assembly processes, while satisfying the quality requirements. It allows you to mount and rotate the satellite. It shortens the procedure of manipulating the satellite when you perform manual activities, such as mounting the components inside the satellite and performing tests.

Let's discover together a **new way** of improving the assembly processes and testing campaigns.

Maciej Urbanowicz

Quick
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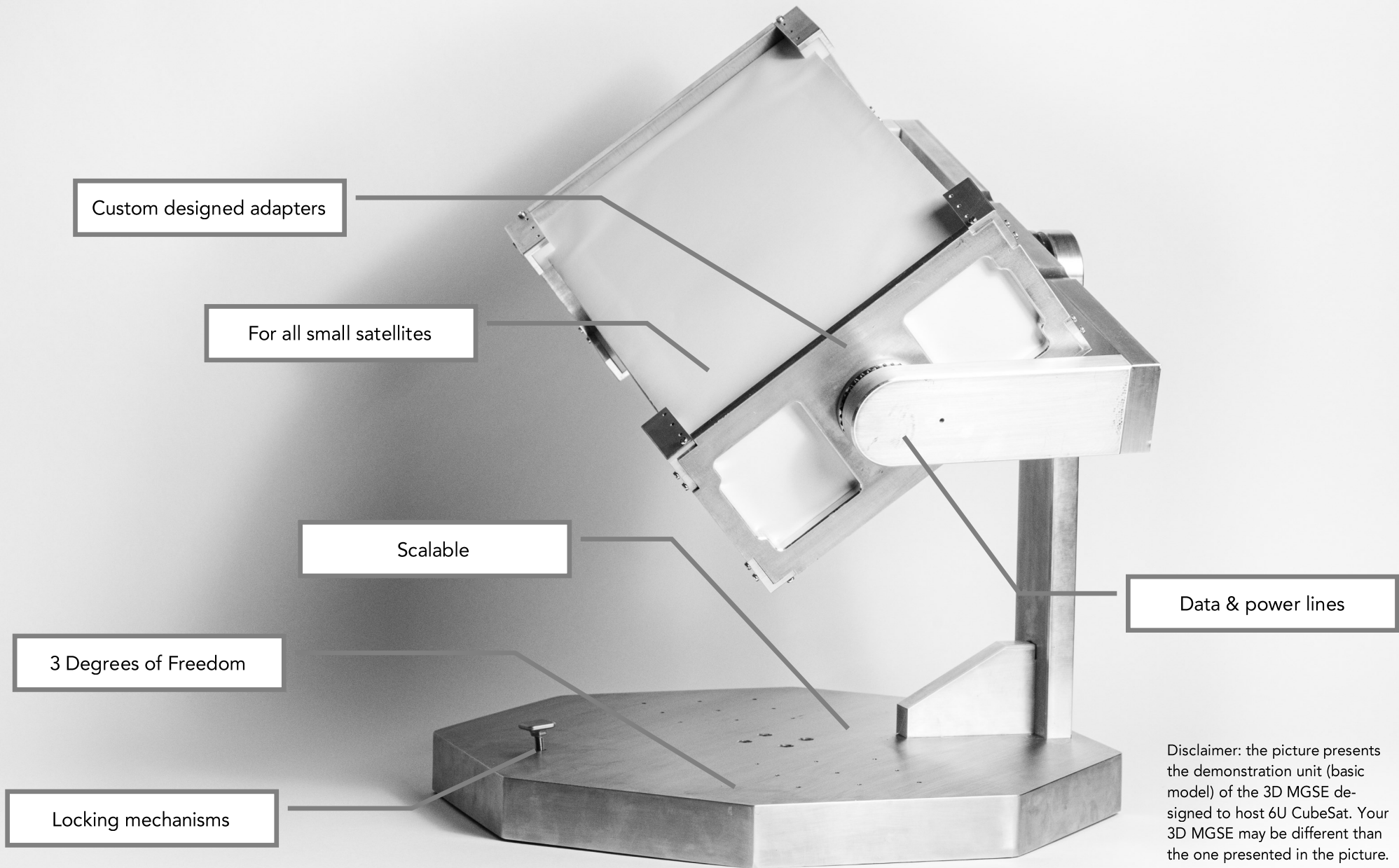
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Disclaimer: the picture presents the demonstration unit (basic model) of the 3D MGSE designed to host 6U CubeSat. Your 3D MGSE may be different than the one presented in the picture.

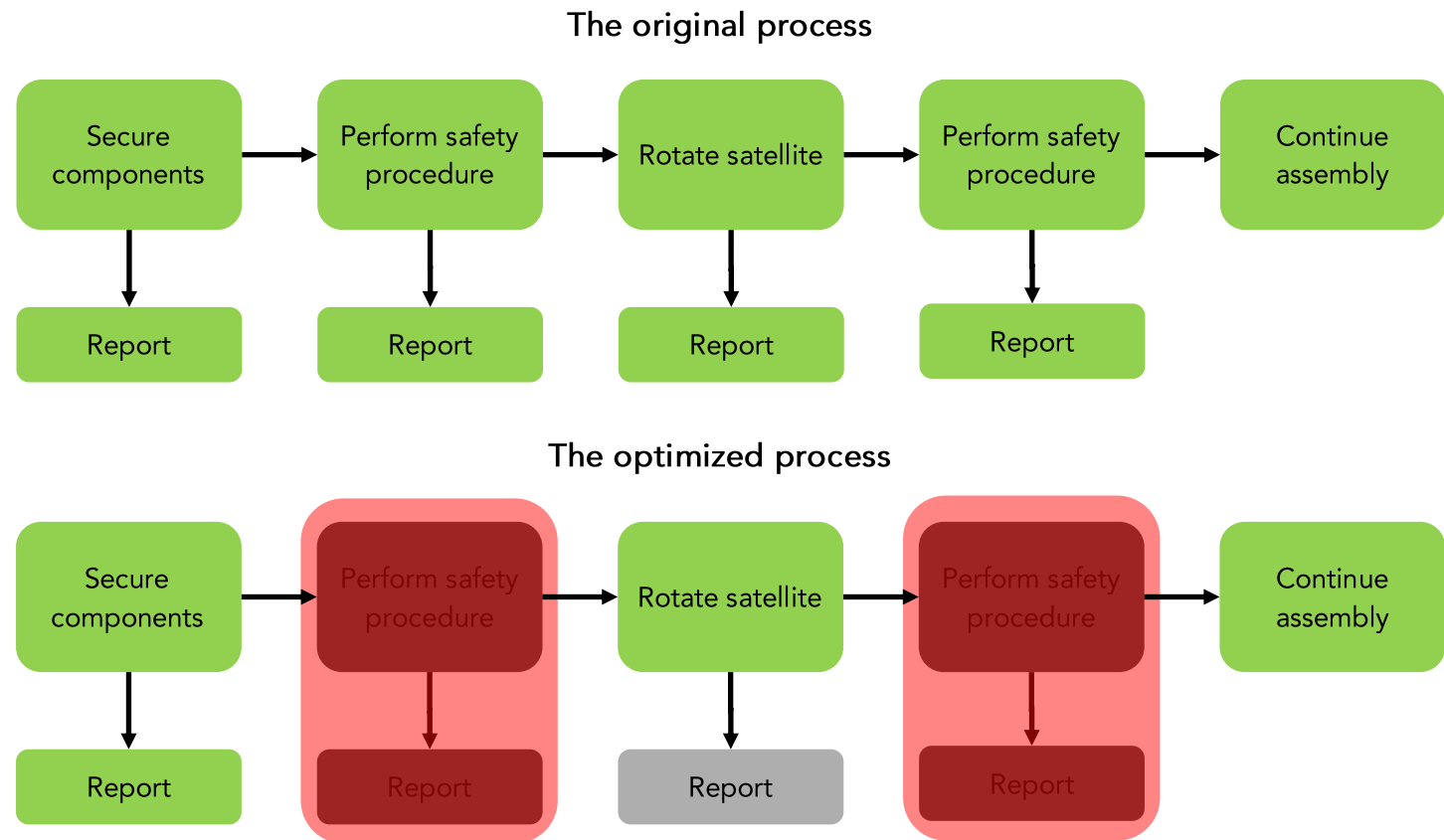
3D MGSE and the assembly process

3D MGSE was invented as a tool to optimize the assembly process of the satellites.


Any manual activity with the satellite has to be done with care. But it consumes time and resources due to required repeated activities like reporting and safety procedures included in the original process.

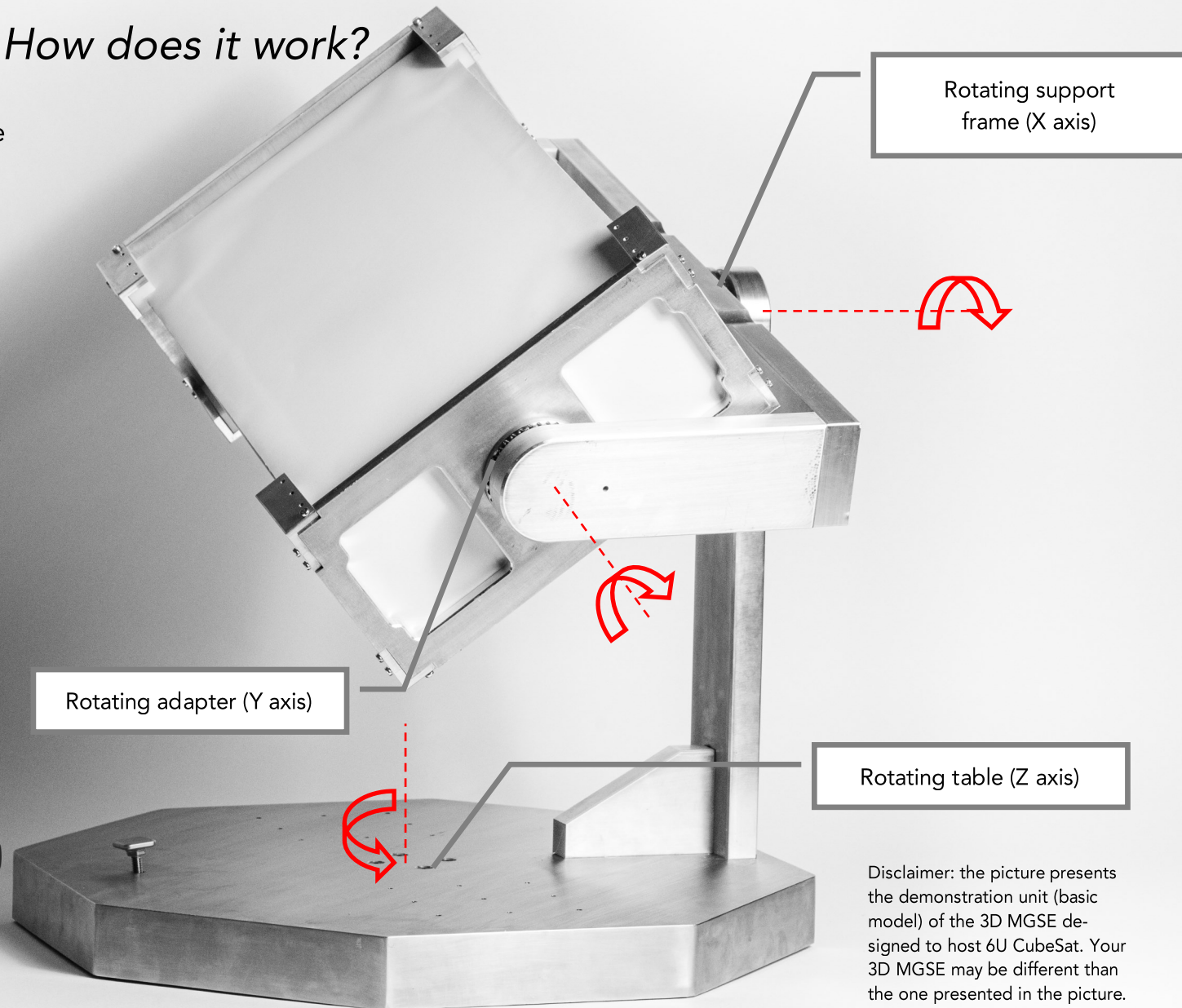
Implementation of the appropriate tool may help to reduce steps as well as the effort and required resources needed to achieve the goal.

3D MGSE allows to fulfill safety and quality requirements and save resources such as time and money by reducing the number of manual activities.



How does it work?

- The 3D MGSE lets you rotate your satellite in 3 axes.
- Each axis has a locking mechanism.
- The adapter can be customized to meet your requirements. For example: to give access to a payload.
- The custom designed adapters can be replaced with the new one to let you work on another mission.
- You can install your satellite without any tool (optional).
- It is possible to exchange data with your satellite, as well as supply it with electrical power.
- A flat-sat test campaign can be (at least partially) performed when the satellite is being assembled.
- Watch the video to see the 3D MGSE: 



How to mount your satellite in the 3D MGSE?

Satellites are different. There are so many mechanical interfaces and designs that it is hardly possible to create a universal interface which handles all sizes and types of satellites.

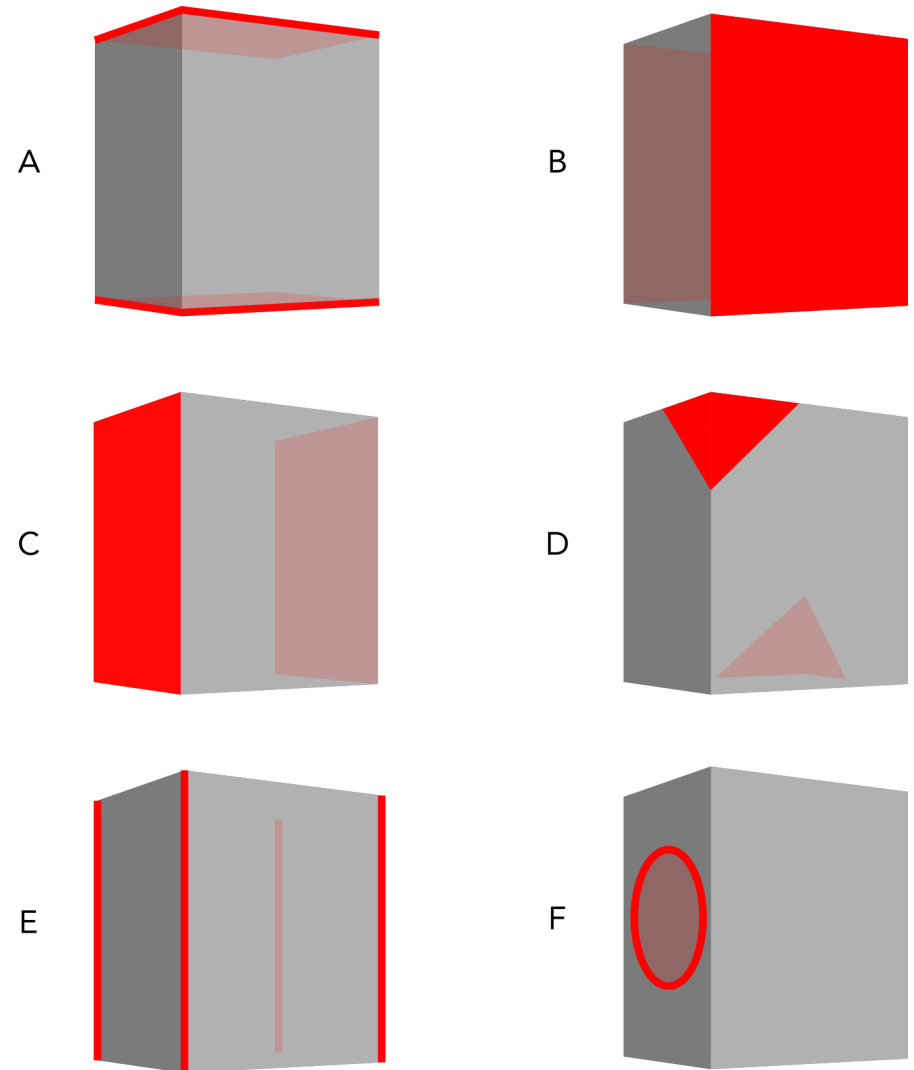
This is the reason why we decided to **give you freedom**. You decide how to mount your satellite in your 3D MGSE! So, it does not matter whether your mechanical interface is a classic rail-like system or a ring. Take a look at the drawing which presents examples how to mount your satellite (red areas represent places where mechanical interfaces can be installed):

- Type A
- Type B
- Type C
- Type D (opposite corners)
- Type E (a rail-like interface)
- Type F (a ring adapter on one side)

Note that we are not limited to the options presented above.

We'll build an interchangeable adapter for you. Thus, one 3D MGSE can be used in various projects. Just replace the adapter and you are ready to go.

Freedom of choice — it's a right, not a privilege.



3D MGSE: options (MY2020)

- The 3D MGSE has a modular design. Thus, if you want to upgrade it in the future, we can deliver you the upgrade kits accordingly.
- 3 Degrees of Freedom is a standard feature. However, you may want to use only 2 axes (for example: no rotating table). This modification is perfectly possible.
- The custom mounting holes let you use other support equipment.
- The custom designed adapters let you mount your satellite the way you want to the 3D MGSE.
- Sensors give you information about the attitude of your satellite.
- The interface lets you connect your satellite and sensors to the EGSE.
- Tool-free mount of a satellite is an optional feature which allows to mount and dismount your satellite without using any tools. Handy for quick and easy assembly.
- Any special requests? Feel free to let us know. We will find the best solution to meet your needs.

Option	Type	Mechanical	Mechanical + power & data lines	Mechanical + power & data lines + sensors
3 Degrees of Freedom		Yes		
Locking mechanisms (on each axis)		Yes		
Custom mounting holes		Yes		
Custom designed adapters		Yes		
Sensors (e.g. magnetometers, protractors, encoders)		No		Yes
Interface (connector)		No	Yes	
Tool-free mounting system		Optional		

How to get your 3D MGSE?

We believe that keeping the delivery process simple makes our 3D MGSE more accessible.

This is the reason why we do our best to keep the things as simple as possible.

Most of the components of the 3D MGSE are standardized. However, we care about your needs, thus we want to understand the details of your request and to create the right solution for you.

Phase 1: RFI

In this phase you send us a request for information. We analyze the information you sent us and prepare a set of information about our 3D MGSE.

Up to 1 week

Phase 2: Order

In this phase you order the 3D MGSE. We define the final list of requirements and present the proposal of implementation.

Up to 1 week

Phase 3: Development

In this phase we ask you to verify the final proposal. After the verification we begin the development process where we build the 3D MGSE for you.

Up to 5/8* weeks

Phase 4: Delivery & Installation

In this phase we deliver your 3D MGSE to you! The device can be installed by yourself or we can do it for you.

Up to 1** week

* - 5 weeks is the usual time. 8 weeks is in case of more challenging requirements or unusual changes to the design.

** - it may vary due to the shipment time and the customs.

Want to learn more?

About MURB Space

MURB Space has been established in 2016. It provides the following services:

- Business development
- Bespoke development
- Manufacturing

The company provides the services to the following industries:

- Space
- IT
- Manufacturing
- Automation

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