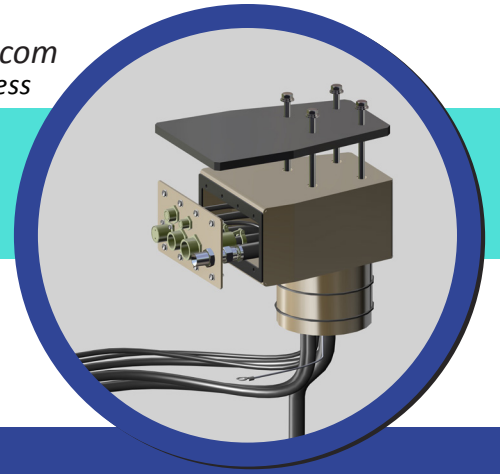


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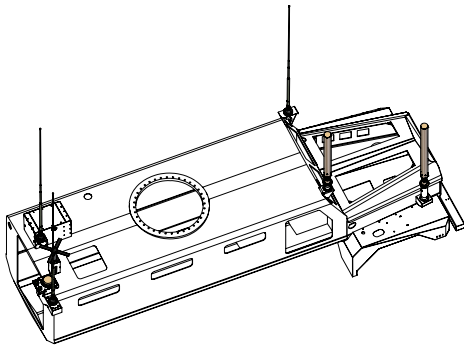
## Modeling and Simulation

# Fathom 4



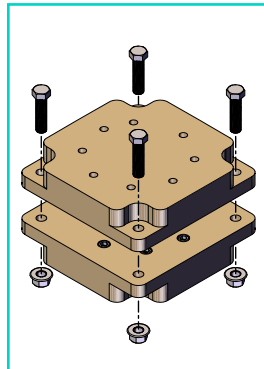
### Modeling and Simulation Team

At Fathom 4 our passion is protecting the warfighter. By being at the forefront of tactical vehicle C4ISR integration, our work has a great ability to do just that. CAD modeling and simulation provides an invaluable tool that allows us to move more of the engineering even earlier in the design process. By considering the lifecycle of the product from the initial design stages, Fathom 4 is able to develop an integration that is not only cheaper to manufacture, assemble, service and better for the environment, but also more robust and effective for the end user.



The constant challenge with integrating complex C4ISR into vehicle platforms is the uniqueness that each custom integration creates. This complexity is compounded if the timeline for integration is compressed. By moving more of the engineering to the forefront of the design process, the design can be substantially optimized before the first parts are built. This reduces rework, testing loops, scrap, field failures, and other costly hiccups that come from products designed in a typical prototype process.

Throughout the design phase, the engineering team maximizes efficiency by seamlessly integrating design for manufacturability (DFM), assembly (DFA), service (DFS), and thus design for X (DFX). DFX methodologies help Fathom 4 create designs that consider every phase of the product lifecycle before the first part is ever manufactured.



### Benefits of Modeling

**Virtual mock ups**

**Doesn't require physical components**

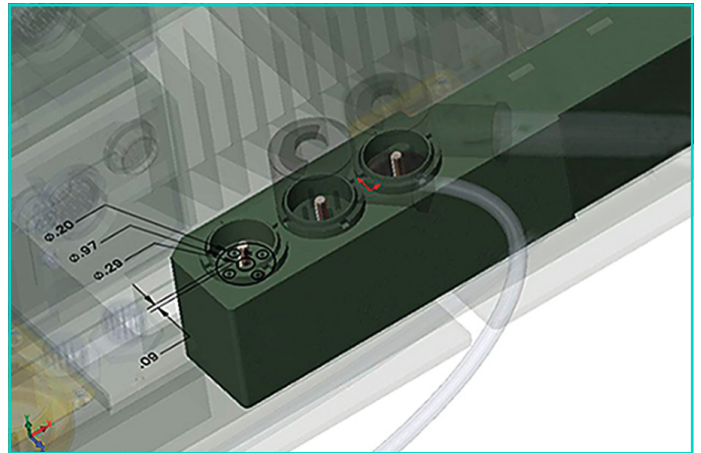
**Save money on production parts**

**Improves production efficiency**

**Ability to test multiple scenarios and designs**

**Simple design modification**

Fathom 4 creates a 3D vehicle model that provides a simulated integration platform. That model is used to virtually integrate metalwork, cables, and C4ISR equipment. This provides valuable feedback using interference detection analysis and space claim studies.



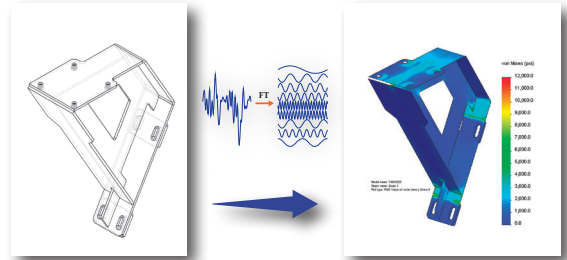
Other simple feedback is also provided about hardware length and cable length that reduces prototype material purchases. Finite element analysis (FEA) is used to mitigate any structural weakness in the designs using the MIL-STD composite wheeled vehicle vibration profile. This FEA feedback can also be used for specific design concerns such as steps or loading platforms.

Focused on the warfighter, Fathom4 ensures that the latest modeling and simulation technology keeps the best C4ISR product in front of our soldiers.

## Finite Element Analysis

The Fathom 4 FEA Team is able to perform static, sawtooth pulse shock, and random vibration simulations based on parameters set forth by the client's specified standard (for example: MIL-STD 810G or 901D).

Our FEA team consists of multiple degreed mechanical engineers and full-time engineering technicians dedicated to providing superior FEA services. Each of our engineers is experienced in the fields of part creation, finite element analysis and product performance. Every team member evaluates and provides input into each new FEA project in order to guarantee precise, thorough and detailed solutions.

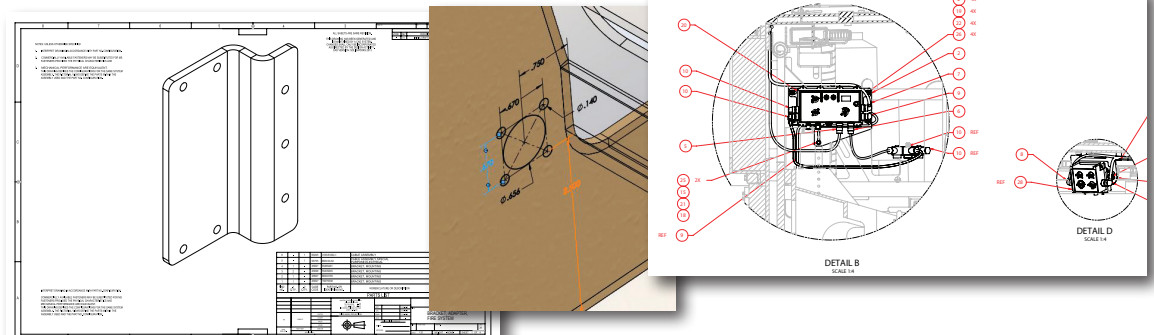


## Experience

-  **Finite Element Analysis**
-  **Cable Design and Fabrication**
-  **OEM Platform and Component Modeling**
-  **Cable Routing Simulation**
-  **Design and Fabrication**
-  **Production Level Data Packages (Formerly Level 3)**
-  **Component Installation Drawings**
-  **Modification Drawings**

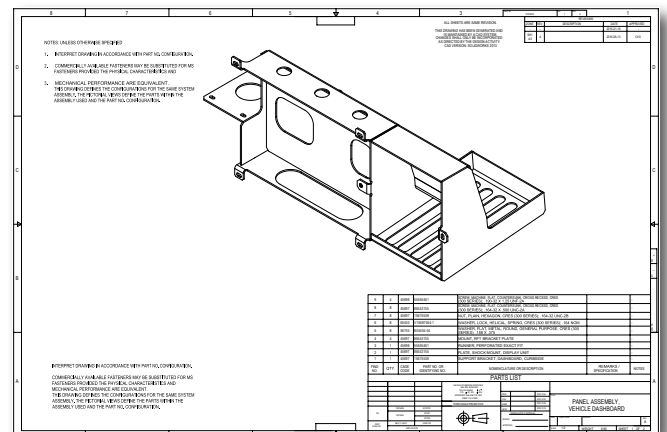
## Production Level Fabrication

Fathom 4's team has years of combined experience in a rapid prototype and production environment creating the interface points between two OEM components or completely new designs. Once the designs are complete, production level fabrication drawings are created that meet MIL-STD and ASTM requirements for consistency and thoroughness.



## Technical Data Packages

Fathom 4's team will create Production Level Technical Data Packages for the entire C4ISR integration. These drawing packages give full manufacturing and installation details required to reproduce the integration in a reliable and repeatable production process. Also, the engineering documentation can easily be converted into an LSA36 and engineering documentation for provisioning (EDFP) to give our clients what they require for the sustainment of the system from cradle to grave.



**We Believe in People**  
Our Troops. Our Clients. Our Team.

**Fathom 4 has a simple mission: Engineering Freedom** - for our country, our clients, and our employees. We delight our DoD clients by providing the best value engineering services. Fathom 4 employees are critical members of the DoD programs we support, by being highly professional, competent, industrious, and ethical.

We are a service-disabled veteran-owned small business and an employee-centric company. Fathom 4 was founded on the belief that if we take care of our employees to the best of our ability, then they will do the same for our clients.

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