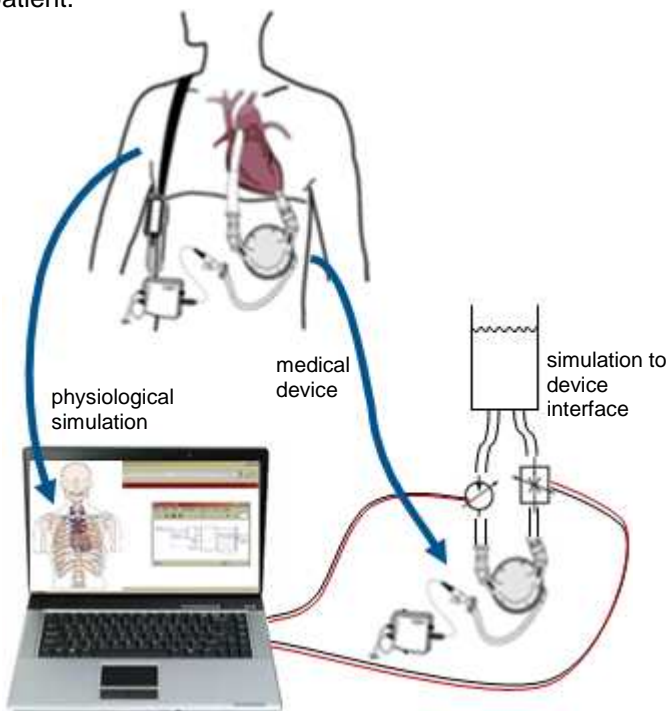


## Company Background

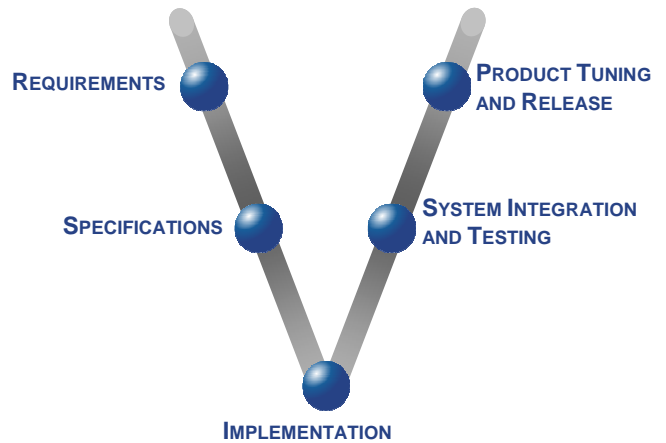
Emmeskay is an advanced technology solutions company. We provide state-of-the-art technology products and services in the area of Model-Based Systems Development. Our global resource base supports a global customer base which includes major OEM's and Tier-1 suppliers.

## Methodology

Our approach is to use MBSD to support rapid-prototyping of medical devices. Computer simulations can model high level physiological responses with sufficient accuracy to enable Model-in-the-Loop (MIL), Software-in-the-Loop (SIL) or Hardware-in-the-Loop (HIL) testing. The simulation is integrated into a real-time HIL system to exhaustively test the medical device in an environment that is repeatable and can be automated. This might include hardware failure testing, software logic testing, and patient interaction testing. The value of models would be the ability to simulate a wide range of conditions or physiological characteristics in the patient.



Medical device in a patient (above) and in an HIL system (below)



## Verification & Validation (V&V)

V&V is the process by which a product is tested against a set of requirements to quantify how well it meets those criteria. Through mathematical techniques, test cases can be generated to ensure that every part of the code used by the device is validated. In addition, Model-Based Systems Development provides a rigorous framework for conducting this testing that is repeatable, automated and cost-effective. The end result is that Emmeskay can improve prototype development by:

- **Reducing time to market** through rapid exploration of the design space and virtual prototyping
- **Significantly improving quality** by catching problems earlier in the design phase, by conducting hard-to-test extreme conditions via simulation and by finding better solutions through trade-off studies
- **Reducing development costs** by reducing the number of hardware prototypes and design iterations required, and by lowering the warranty costs due to improved quality

## How Can Emmeskay Help?

- **Process Development**
  - Provide testing methodologies, tools and techniques
  - Establish or refine the customer's V&V process to meet requirements
    - Test platform
    - Test vector generation
    - V&V criteria
- **Process Implementation**
  - Build MIL, SIL or HIL platforms
  - Develop test automation
- **Process Execution**
  - Perform V&V testing on customer's work products and report results
  - Perform reliability and safety analysis during early design stages

