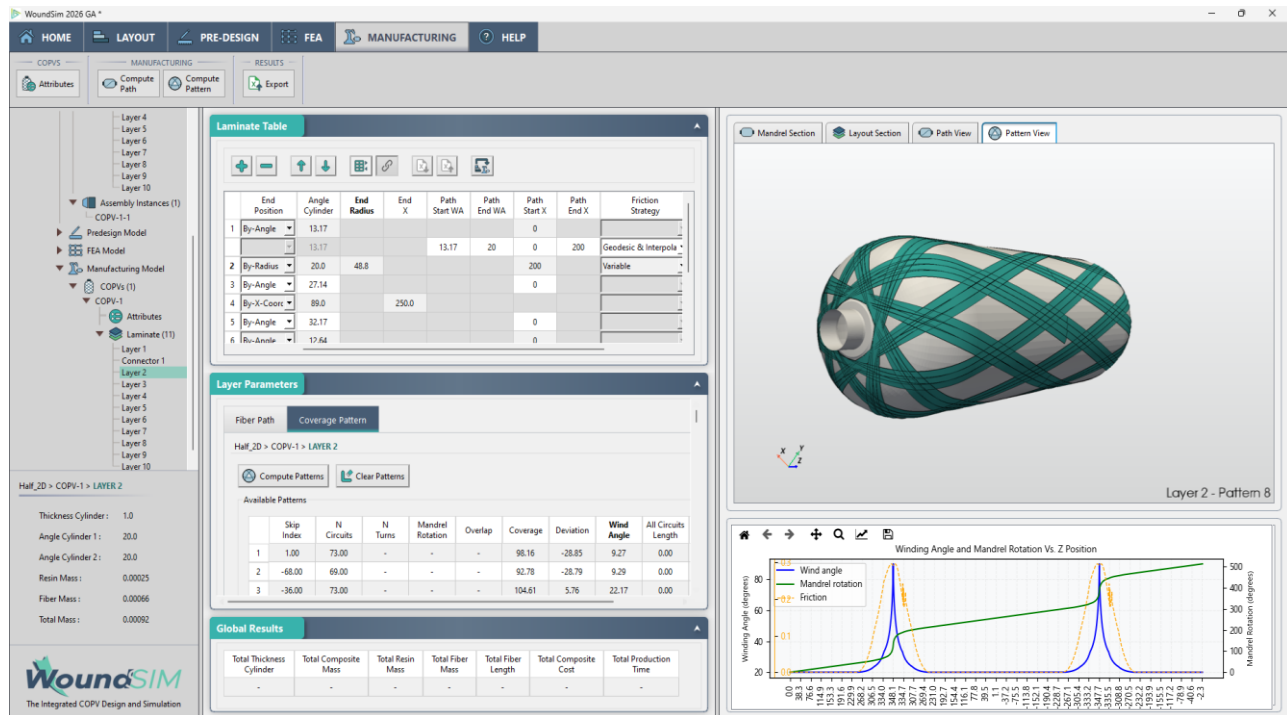


# THE Integrated Intelligence for Composite Pressure Vessels Design, Simulation, Optimization and Manufacturing

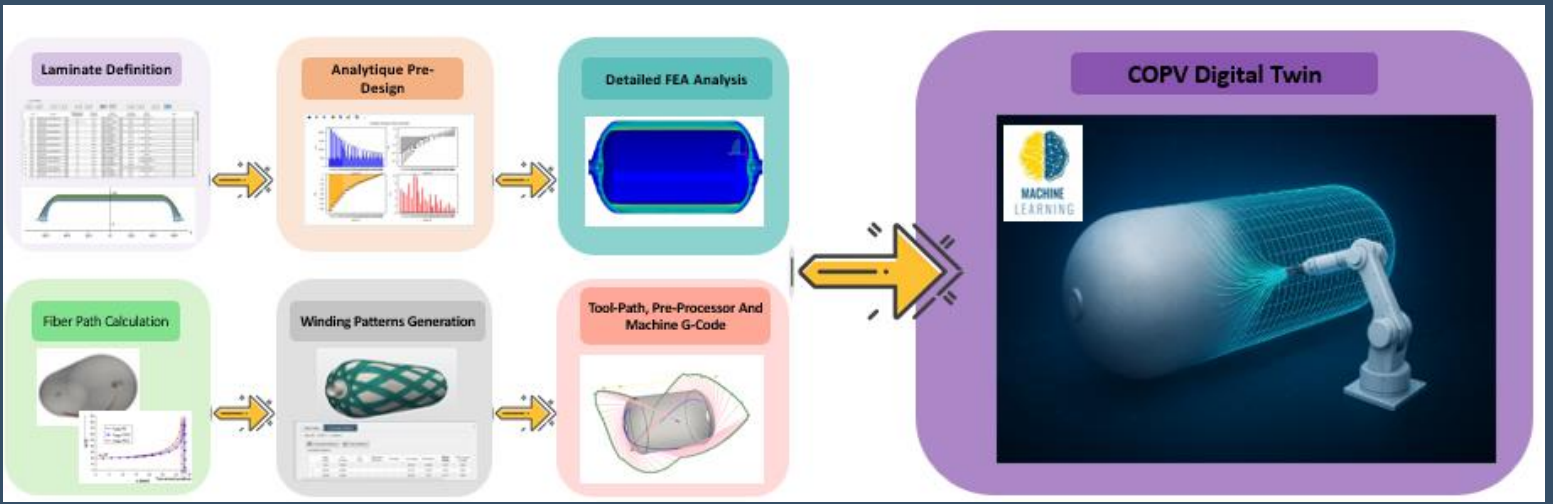
**WoundSim** is a WW leader software used to Design, Simulate, Optimize, and Manufacture Composite Overwrapped Pressure Vessels (COPVs). **WoundSim** proposes a unified Design–Manufacturing approach with one single integrated interface.



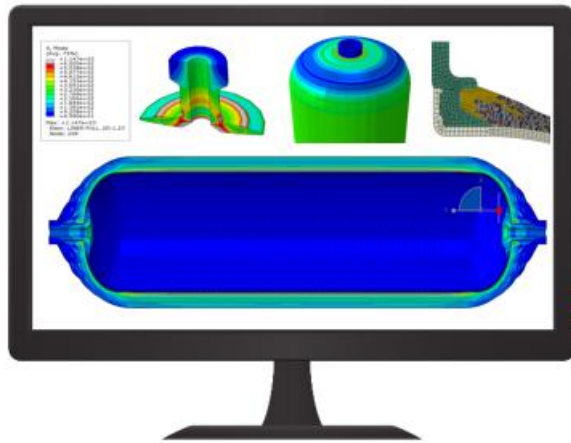
Thanks to the integrated Design and Manufacturing capabilities, **WoundSim** offers a unique environment for COPVs projects development.

## Key Features:

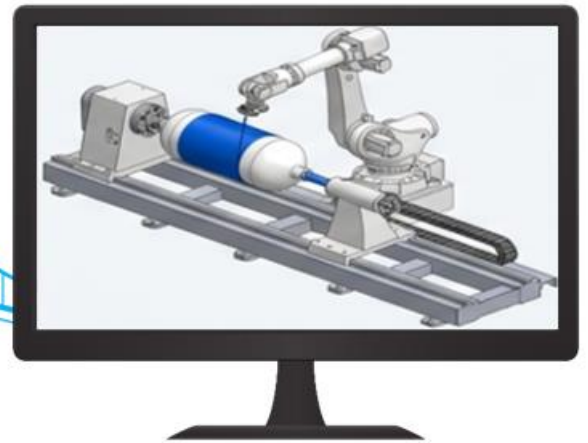
- Coverage of **filament winging, wet & prepreg, thermosets** and **thermoplastics** winding processes,
- Comprehensive design **parameters** allowing a quick build and update of COPV models,
- Standalone and comprehensive **GUI** with very short time response,
- Analytic **Pre-Design** capabilities, allowing initial assessment of the design including failure criterion,
- Fully **Automated FE models** generation and full compatibility with **Abaqus/FEA** including:
  - Coverage of all FE modeling possibilities including **2D, 3D, Continuum** and **Shell**,
  - Smear and non-smear modeling approaches allowing composite progressive failure,
  - Coverage of various analysis procedures including **Static, Implicit, Explicit** and **Thermal** and various design **Load Cases**: Burst, Fatigue, Autofrettage, Bending, Debonding, Drop Test, High Speed Impact.
- Integration of **Manufacturing (CAD Winding)** capabilities including:
  - Exact circuit trajectory computation for helical, hoop and connector layers,
  - Computation of all feasible patterns for each layer including coverage, deviation, circuits numbers and path lengths for each pattern,
  - Assessment of the layer feasibility and possibility of the final wind angle optimization,
  - Design-Manufacturing Interoperability.
- **Command Line Interface** allowing design process automation and design optimization.



## COPV DESIGN



## COPV MANUFACTURING



# WoundSIM

## Contact information :

Amine ABICHOU  
 +33 7 85 08 3074  
 contact@svertical.com  
[www.svertical.com](http://www.svertical.com)

