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THERMAL & STRUCTURAL CHALLENGES SOLVED

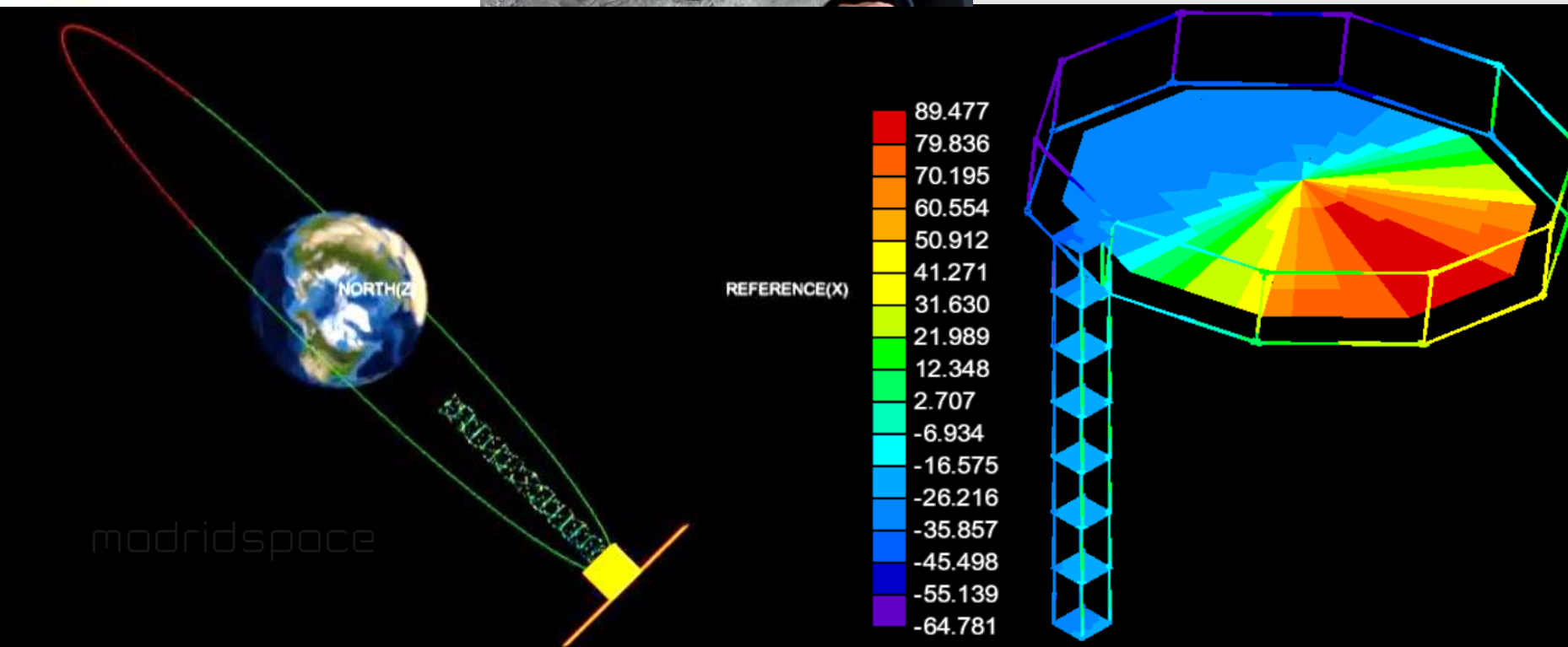
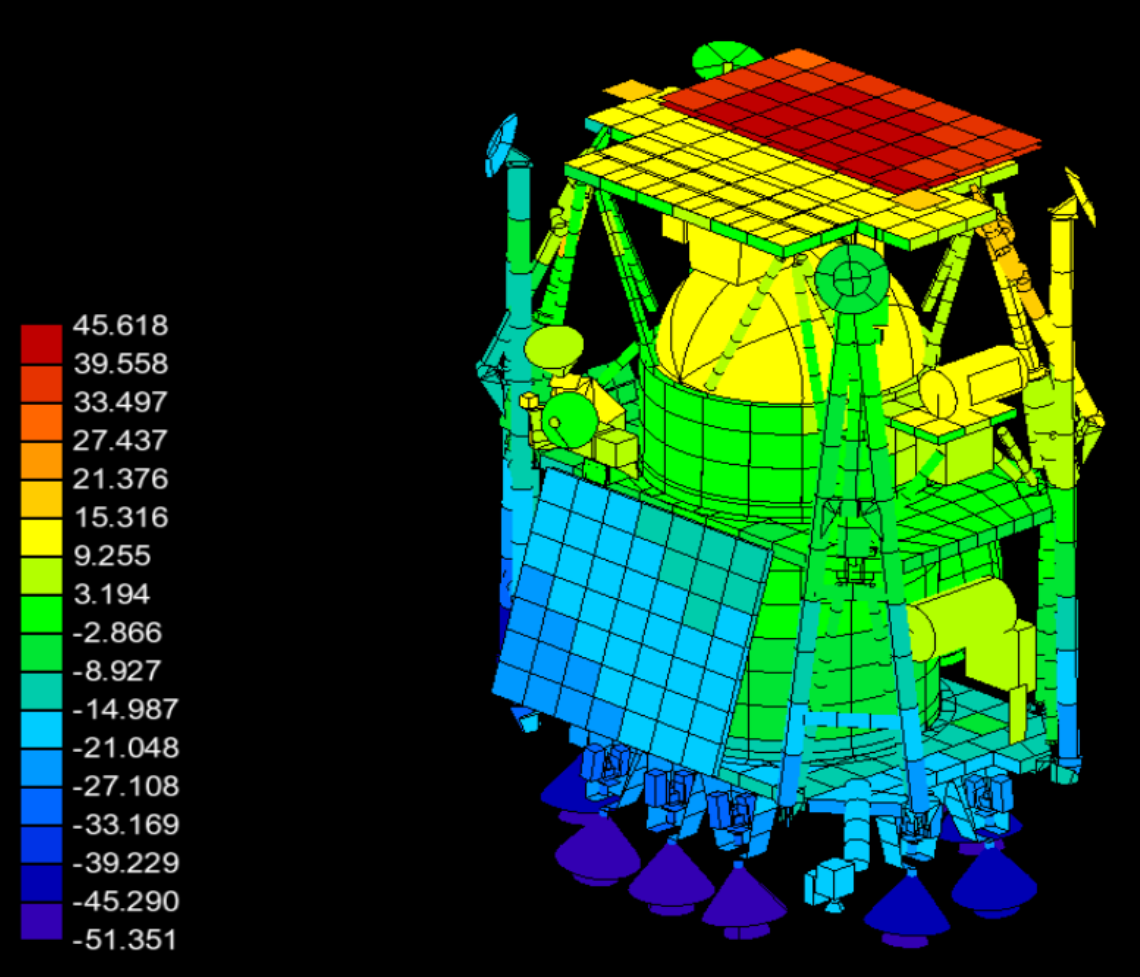
EUROPEAN REFERENCE IN THE DOMAIN OF THERMAL CONTROL AND STRUCTURAL INTEGRITY OF SPACE SYSTEMS.

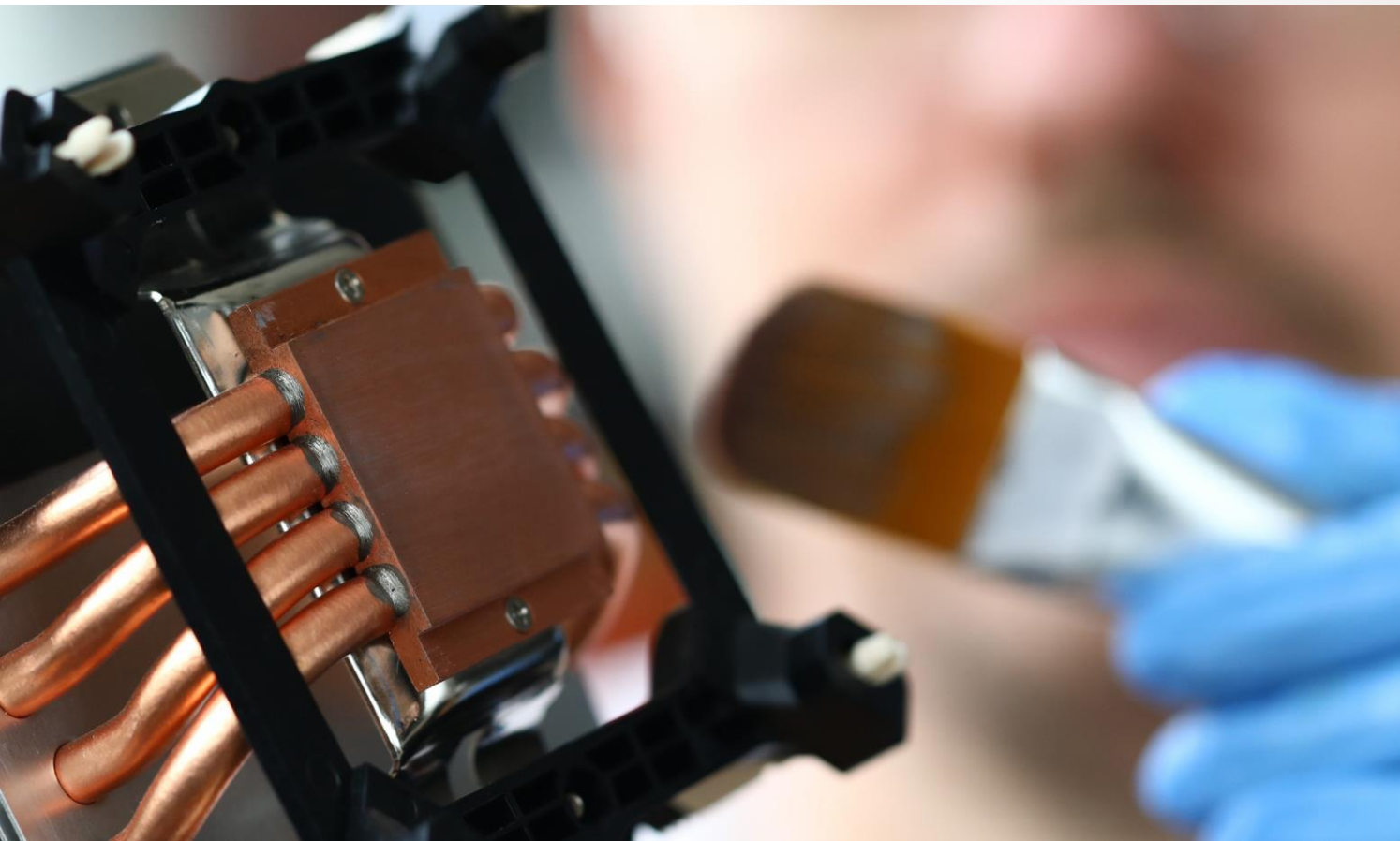
DESIGN, ANALYSIS, TEST AND HARDWARE SOLUTIONS FOR:

- OPTICAL INSTRUMENTS
- ROBOTIC ARMS
- SOLAR ARRAYS
- DEPLOYABLE MECHANISMS
- RADAR, ALTIMETRY, INTERFEROMETRY
- COMPLETE LANDER STRUCTURES
- MANNED SUB-ORBITAL VEHICLES

OUR HERITAGE

- THERMAL CONTROL OF THE COMPLETE BERESHEET2 LUNAR LANDER
- ELECTRONIC HOUSING MECHANICAL DESIGN, ANALYSIS AND PROTOTYPING: LISA INTERFEROMETER E-PMS
- THERMAL CONTROL OF DEPLOYMENT MECHANISM AND DEPLOYED ANTENNA: VARIOUS LEO MISSIONS





THE PROBLEM

INCREASING POWER AND POWER DENSITY DEMANDS IN SPACE TELECOM AND ELECTRONIC SYSTEMS – NEED OF HIGHER THROUGH-PUT AND/OR MINIATURIZATION OF COMPONENTS

VALUE OF A SATELLITE IS LINKED TO DATA PROCESSING CAPACITY, WHICH IS LIMITED BY POWER THROUGHPUT

POWER LIMITED BY TEMPERATURES, SINCE ABOVE A CERTAIN VALUE PROCESSORS SLOW DOWN OR DAMAGE/DEGRADATION CAN OCCUR

COOLER ELECTRONICS TO INCREASE POWER → MORE AND FASTER DATA PROCESSING → MORE VALUE FROM THE SAME EQUIPMENT

PROBLEM & SOLUTION: THEAMS



THERMALLY ENHANCED ADDITIVE MANUFACTURED STRUCTURES

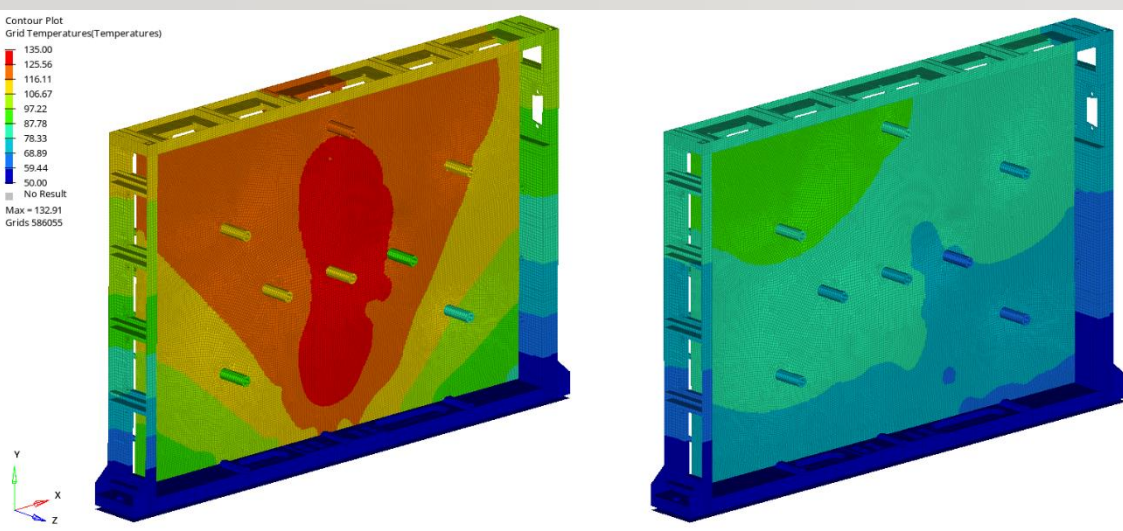
BOOSTING PERFORMANCE WITH ADEQUATE TEMPERATURE CONTROL INTEGRATED IN THE SUPPORT STRUCTURE

BASED ON 2 PHASE FLUID SYSTEMS USING ADDITIVE MANUFACTURING TECHNIQUES AND TOPOLOGY OPTIMIZATION

DECREASE OF MAX TEMP BY 15-30°C → INCREASE OF POWER THROUGHPUT AND EQUIPMENT VALUE OF 20-50%

15-25% LESS WEIGHT

NO ADDED MASS, VOLUME OR AIT EFFORT AND COST



APPLICATIONS

EXPANDING FROM SPACE AND SCIENTIFIC SPACE APPLICATIONS:

APPLICATIONS:

- FRAMES OF PDU, ICU
 - LASER COMM. TERMINALS
 - INTERFEROMETERS, RADAR , ALTIMETERS
 - OPTICAL/RF DETECTORS BENCHES
 - ANTENNAE
-
- ENERGY
 - SUBSEA(2025) – ONGOING
 - AVIONICS (2025)

ANY FIELD IN MIND?

BACKED UP BY EXPERTISE IN DESIGN, THERMAL, MECHANICAL AND CFD ENGINEERING



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