Aslan Dome

Final presentation

By Team 2

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CONTENTS

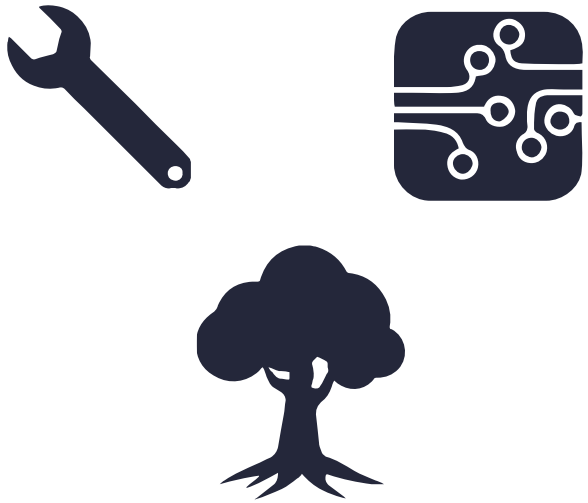
Problem

- High use of energy and materials in the world
- Demand for sustainable housing

Objective

A WOODEN DOME:

- Permanent & robust: *efficient junction nodes*
- Eco-friendly: *sustainable materials*
- Technological: *automatic door and windows*



Project Management

- Useful techniques
  - WBS
  - R and R matrix
- Insufficiently used techniques
  - Risk register

Marketing

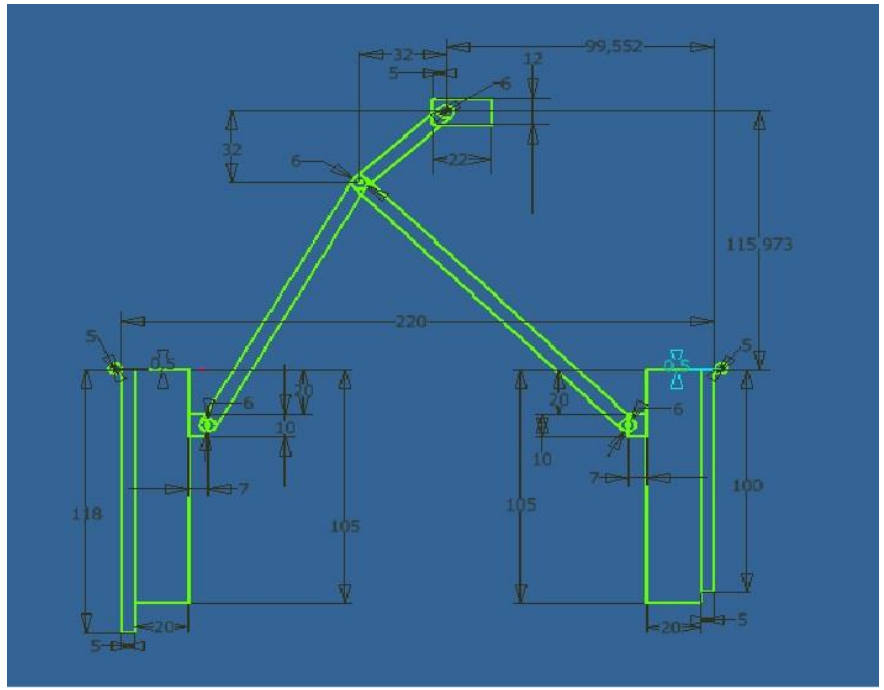
→ *Multifunctional alternative living environment with a small footprint*

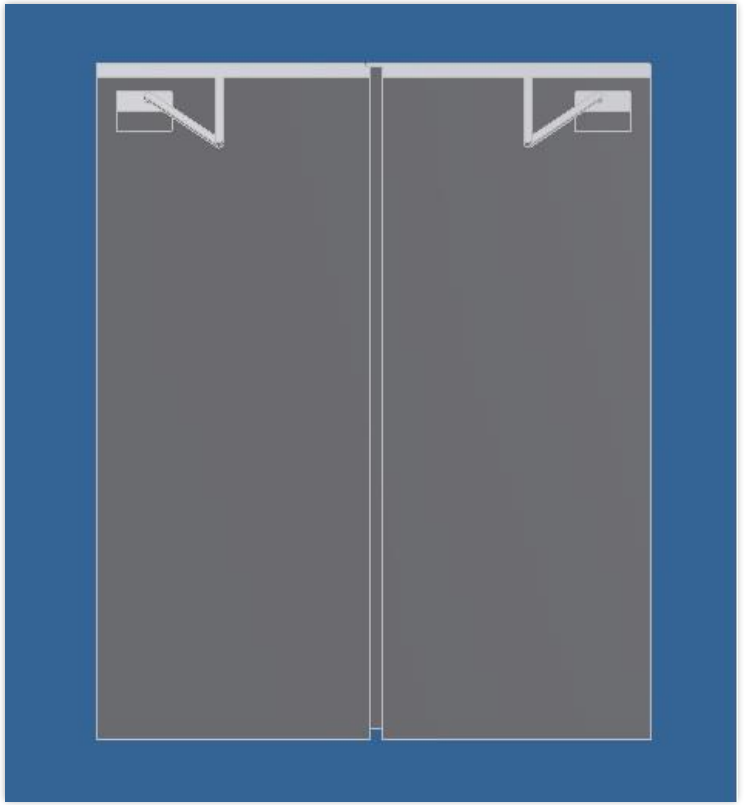
Sustainability

- Sustainability highly valued by the team
- Examples of sustainability measures:
  - Use of oak for the beams
  - Design of the automatic door

Project Development: Automatic Door (1)

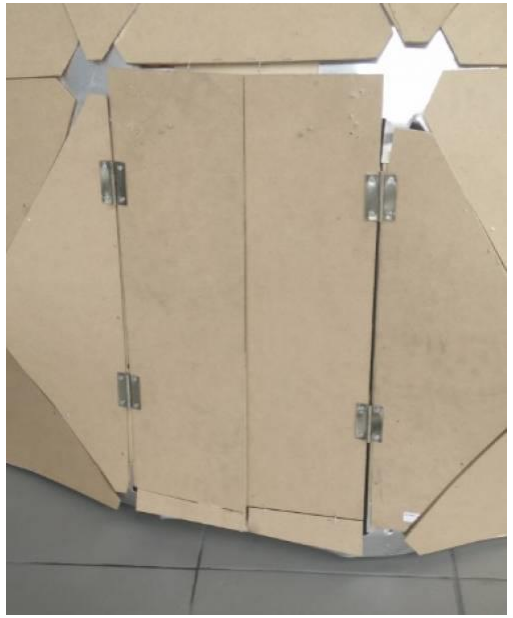
✓ *Concept of the door*





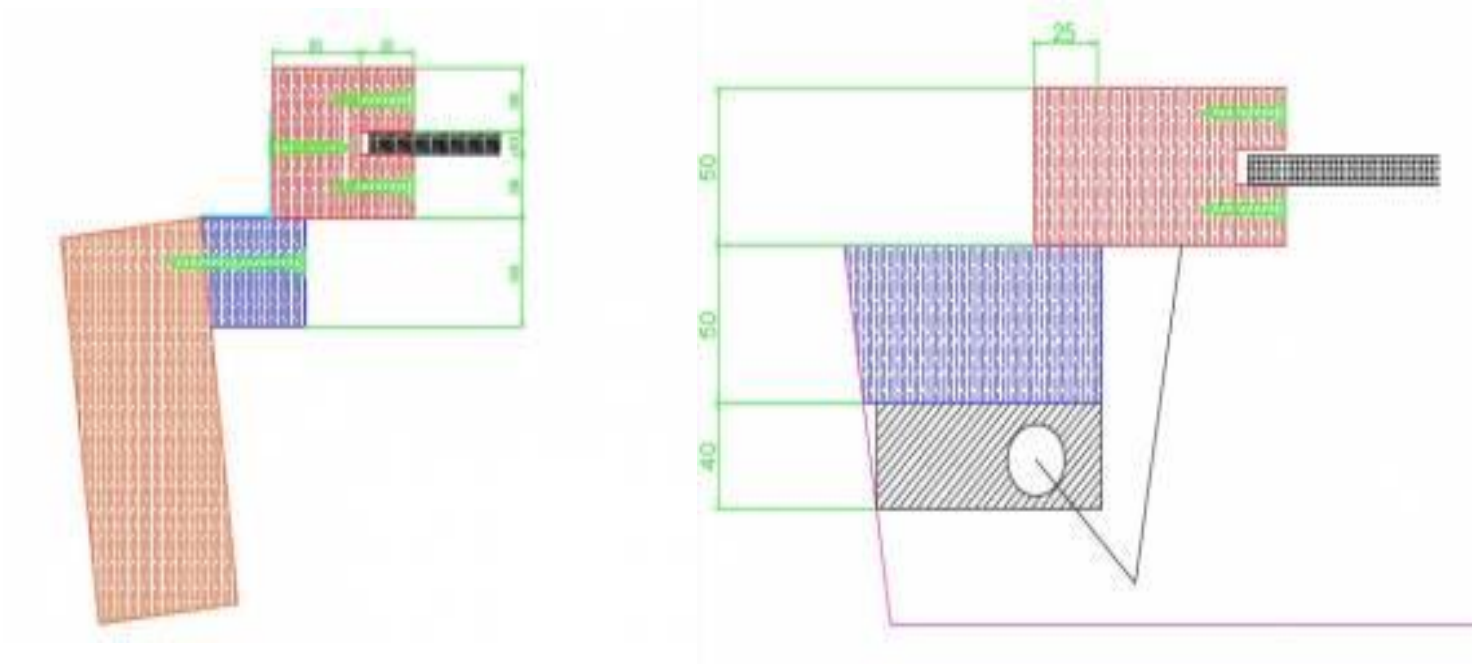
Project Development: Automatic Door (2)

✓ *Door in the scale model*



Project Development: Automatic Window (1)

✓ *Concept of the window*

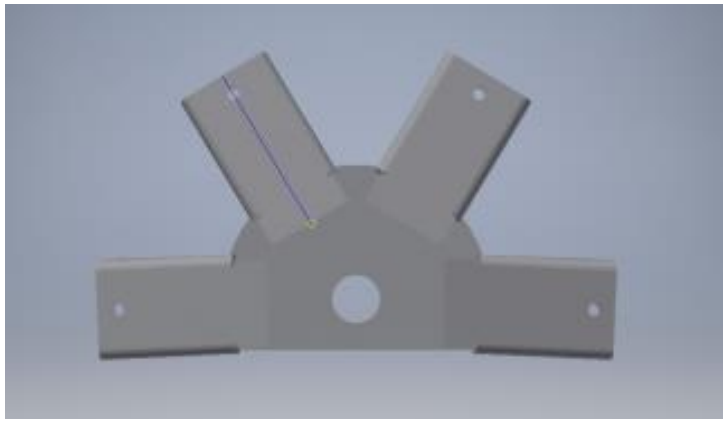


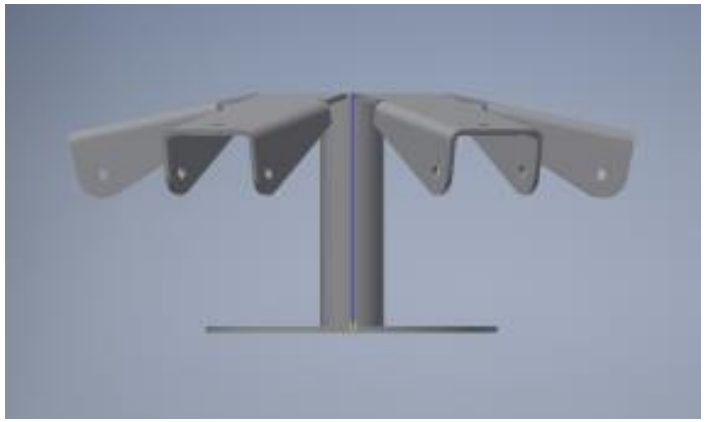
Project Development: Automatic Window (2)

- ✓ *Window in the scale model*

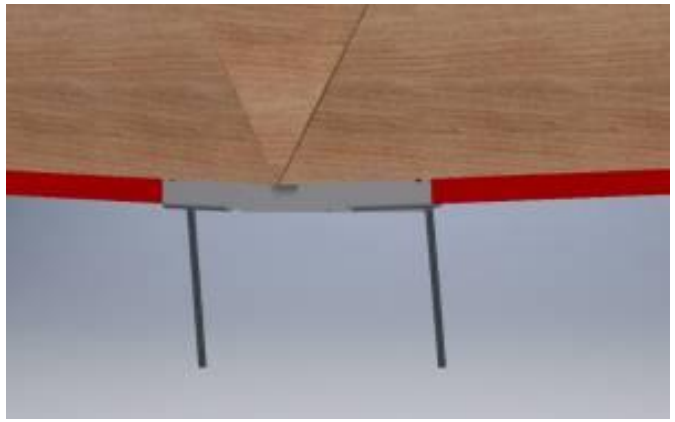
Project Development: Junction Node (1)

✓ *Concept of the junction node*



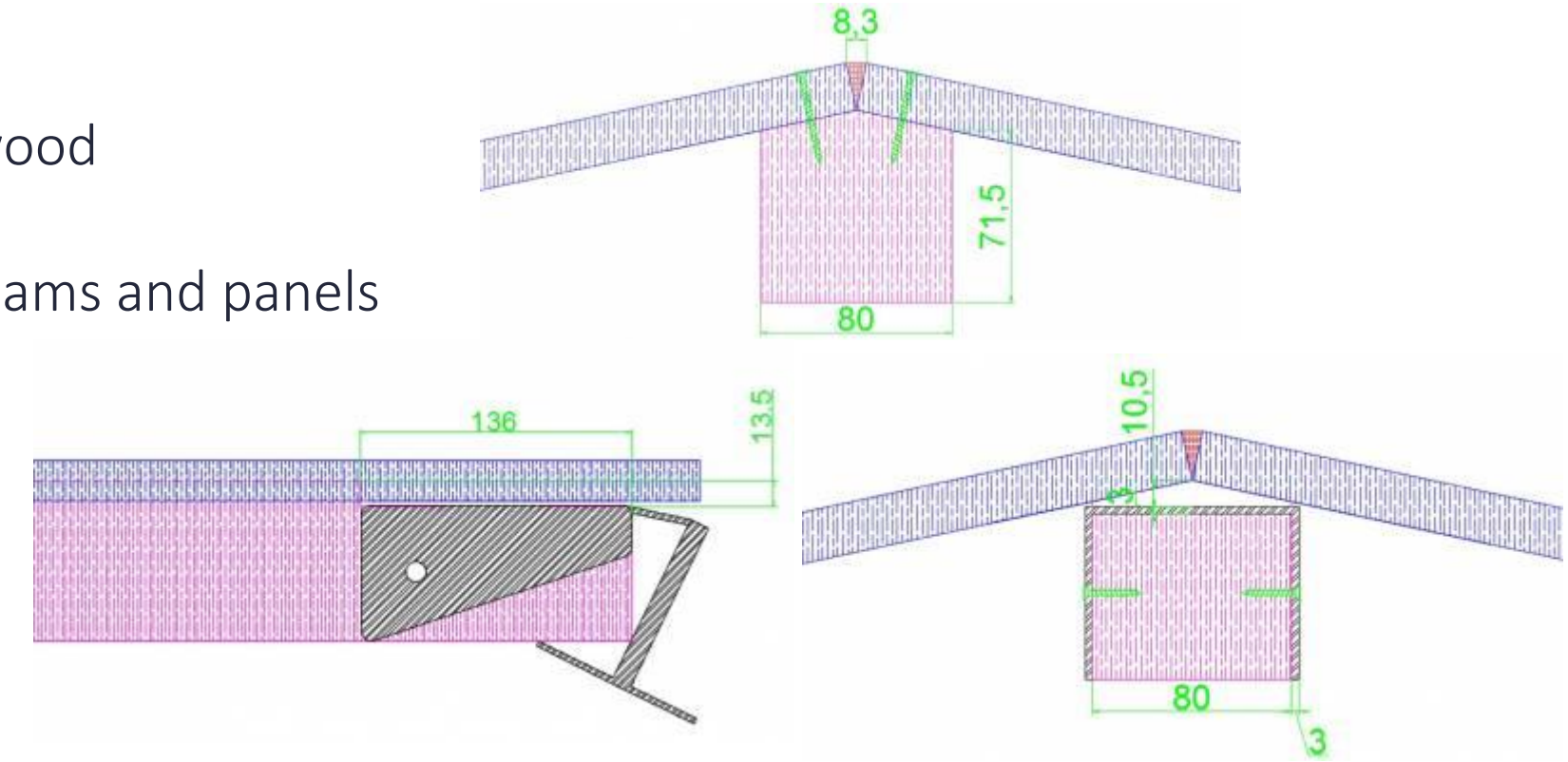


✓ *Special junction node foundation*



Project Development: Junction Node (2)

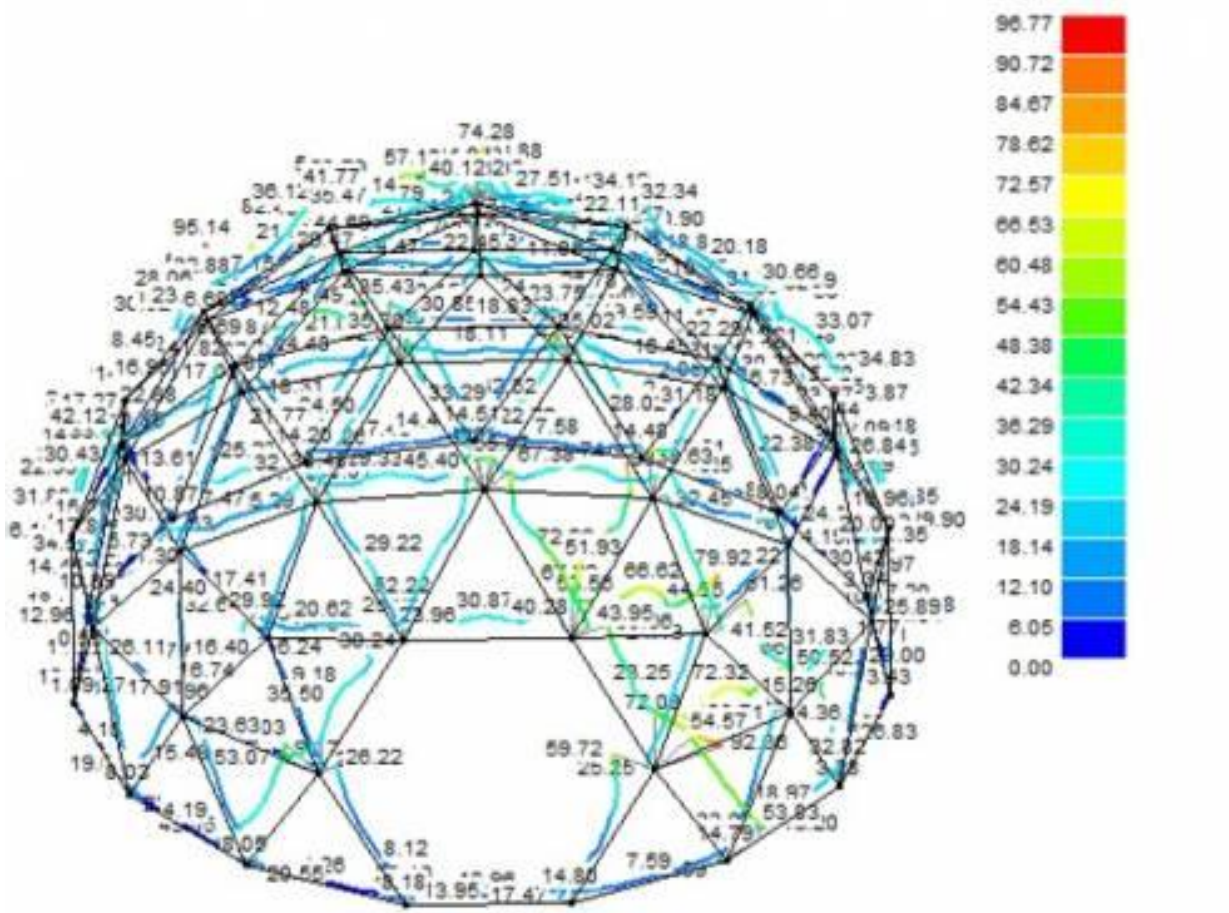
- ✓ Materials: Oak and plywood
- ✓ Connection between beams and panels

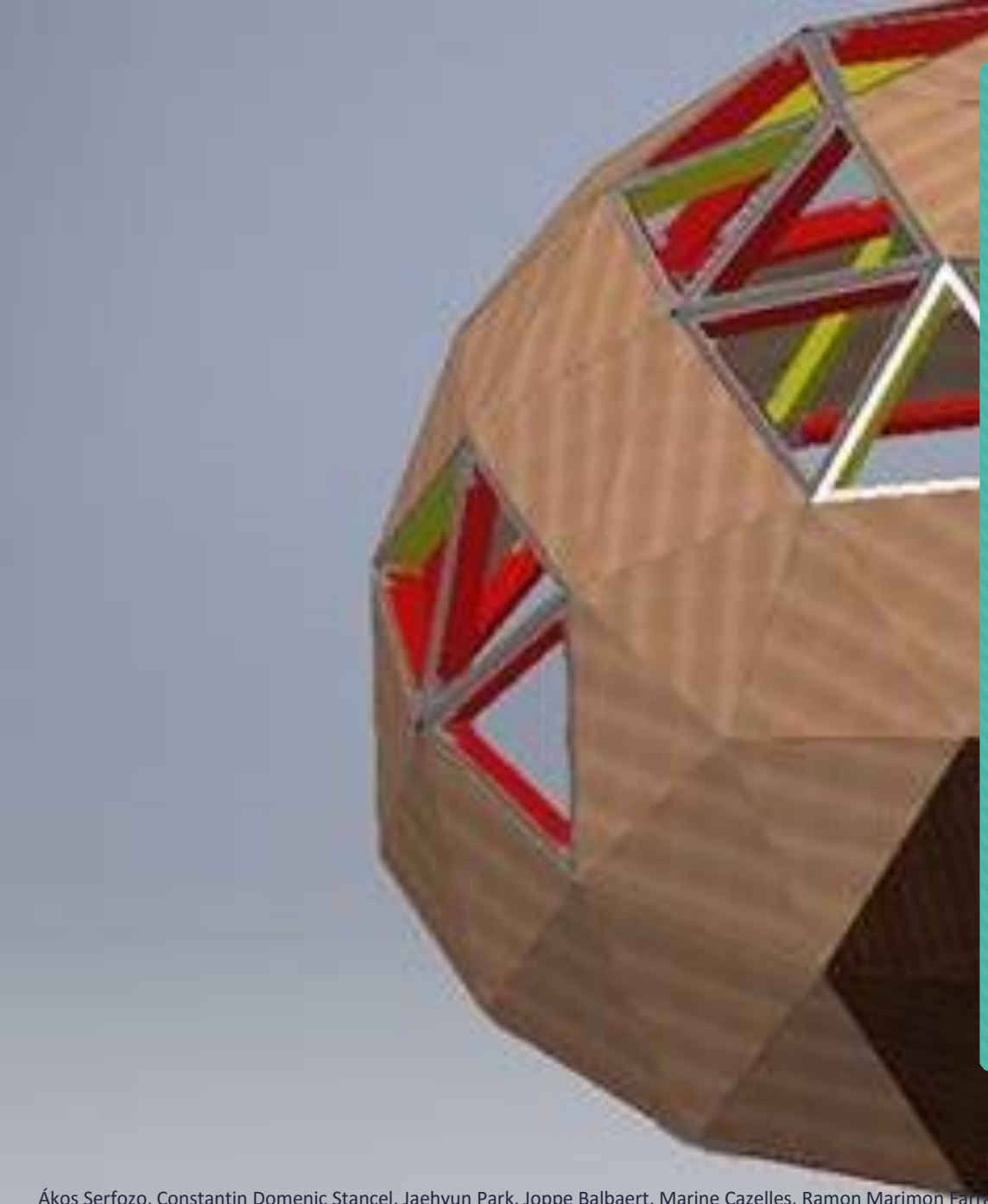


Tests and results (1)

- Simulation in PowerFrame

→ *Result of the optimization process: 80 mm by 80 mm section*



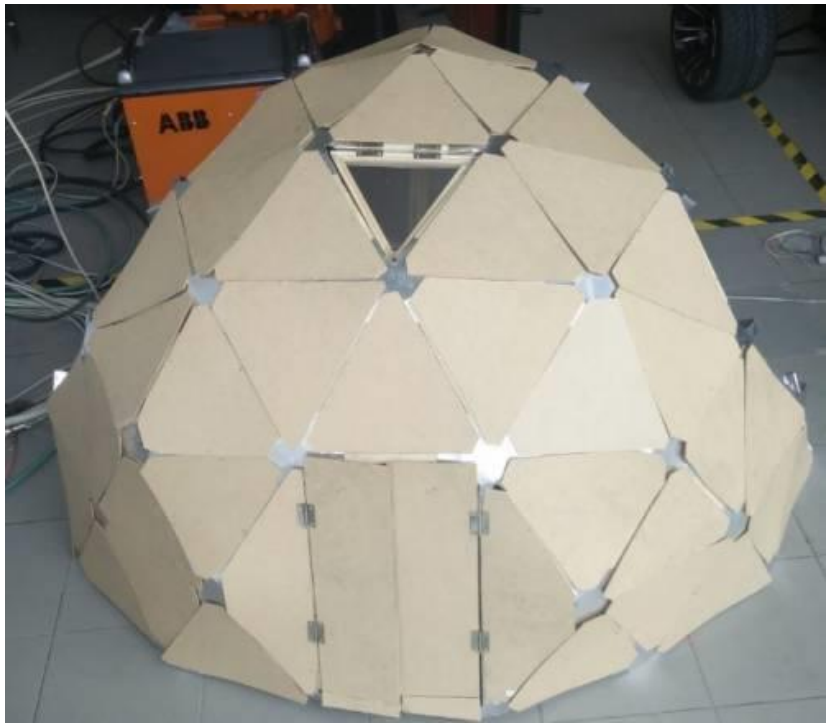


Tests and results (2)

- Points of attention during assembly process
  - ✓ Specific mark for each length of beam
  - ✓ Mark positioning of beam on the junction node
  - ✓ Clear instructions for each team working at the same time
  - ✓ Build the door and window completely before implementation

Tests and results (3)

- Final result of the scale model
- Window and door function correctly



Collaboration of the team

Problem solving

CONCLUSION

Acquisition of new knowledge

Time & budget management

Discovery of another culture

Future development

Future development

- Real conditions testing
- Improve the technological side and the user-friendliness of the product
- Customization
- Improve the interior design
- Implementation of solar panels and the water pyramide designed by team 5

THANKS FOR YOUR ATTENTION !

ASLAN

11th of June 2016