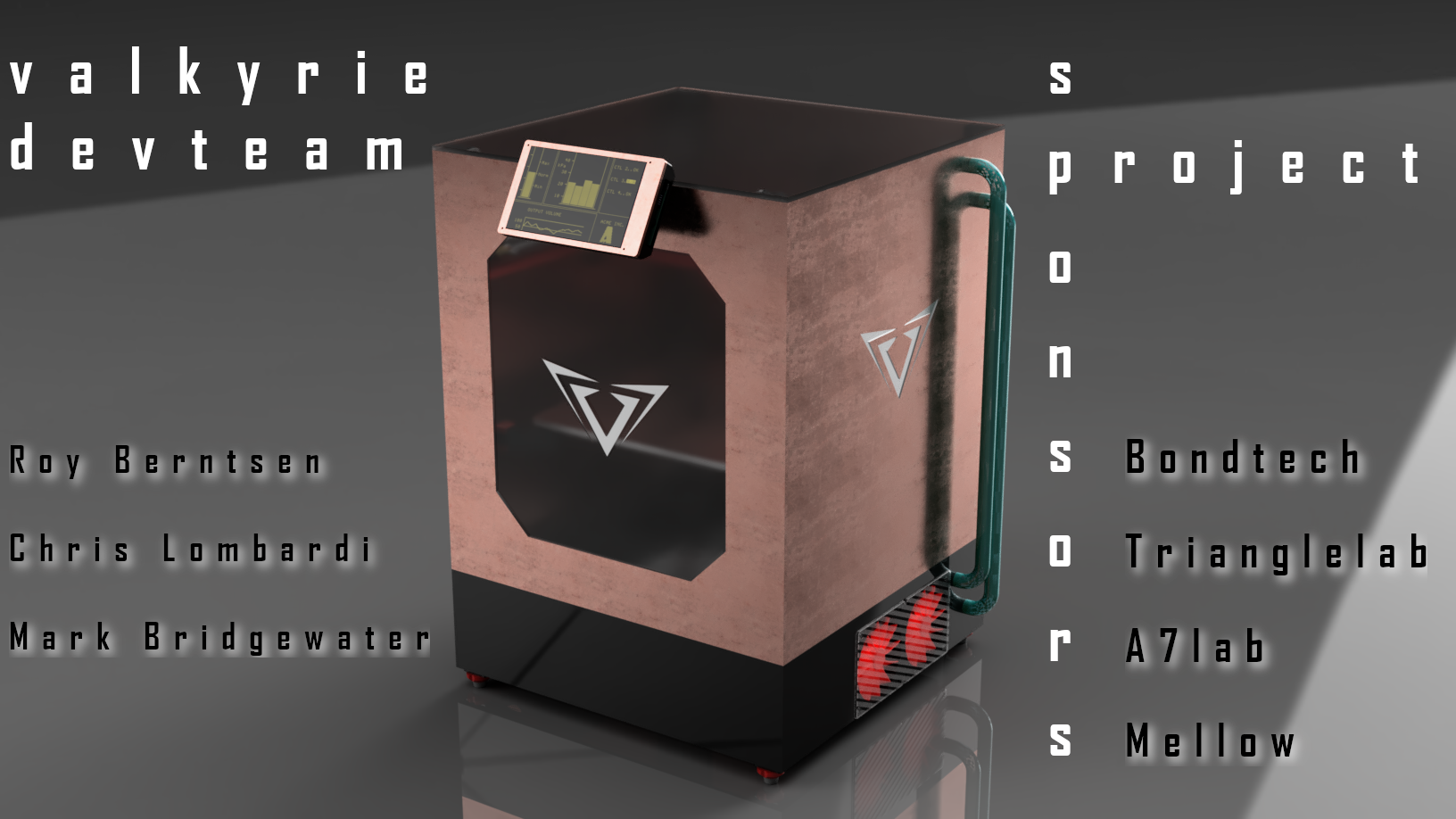
Project Valkyrie

Designing a Premium DIY 3d printer

Discord channel: https://discord.gg/C77tsY5



January 2022

# The Development Team

Roy Berntsen - NO

Mark Bridgewater - NZ  
Chris Lombardi - USA

# Material Selection – Enclosure and Drybox Panels

# General Requirements

## Product Choice

* The panels should have high temp rating
* Easily sourced
* Cost effective
* Easy to cut
* Easy to assemble/build
* As thin as possible
* Look good

## Function Choices

* Insulate from chamber temp
* Strong
* Low weight

# Shortlist of Materials

## Enclosure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Material | Temp Rating | “Add properies” | “Add properies” | Comment |
| MDF |  |  |  |  |
| ACM FR |  |  |  |  |
| ACM |  |  |  |  |
| Drywall |  |  |  |  |

## Drybox

|  |  |  |  |
| --- | --- | --- | --- |
| Material | Temp Rating | “Add properies” | Comment |
| MDF |  |  |  |
|  |  |  |  |
|  |  |  |  |

# Material property matrix

## Enclosure (example)

|  |  |  |  |
| --- | --- | --- | --- |
| **Material properties** | **MDF** | **ACM** | **…** |
| Tensile Strength | Medium - low | Medium | Medium |
| Flexible properties | Medium | Good | Very good |
| Impact Strength | High | Good | Very High |
| Cost | Low | Low | Medium-High |
| Impact resistant | High | High | High |
| Cold Climate properties | Good | Good | Good |
| **Material evaluation** | **Medium** | **Good** | **Good** |

## Drybox (example)

|  |  |  |  |
| --- | --- | --- | --- |
| **Material properties** | **MDF** | **ACM** | **…** |
| Tensile Strength | Medium - low | Medium | Medium |
| Flexible properties | Medium | Good | Very good |
| Impact Strength | High | Good | Very High |
| Cost | Low | Low | Medium-High |
| Impact resistant | High | High | High |
| Cold Climate properties | Good | Good | Good |
| **Material evaluation** | **Medium** | **Good** | **Good** |

# Supplier List