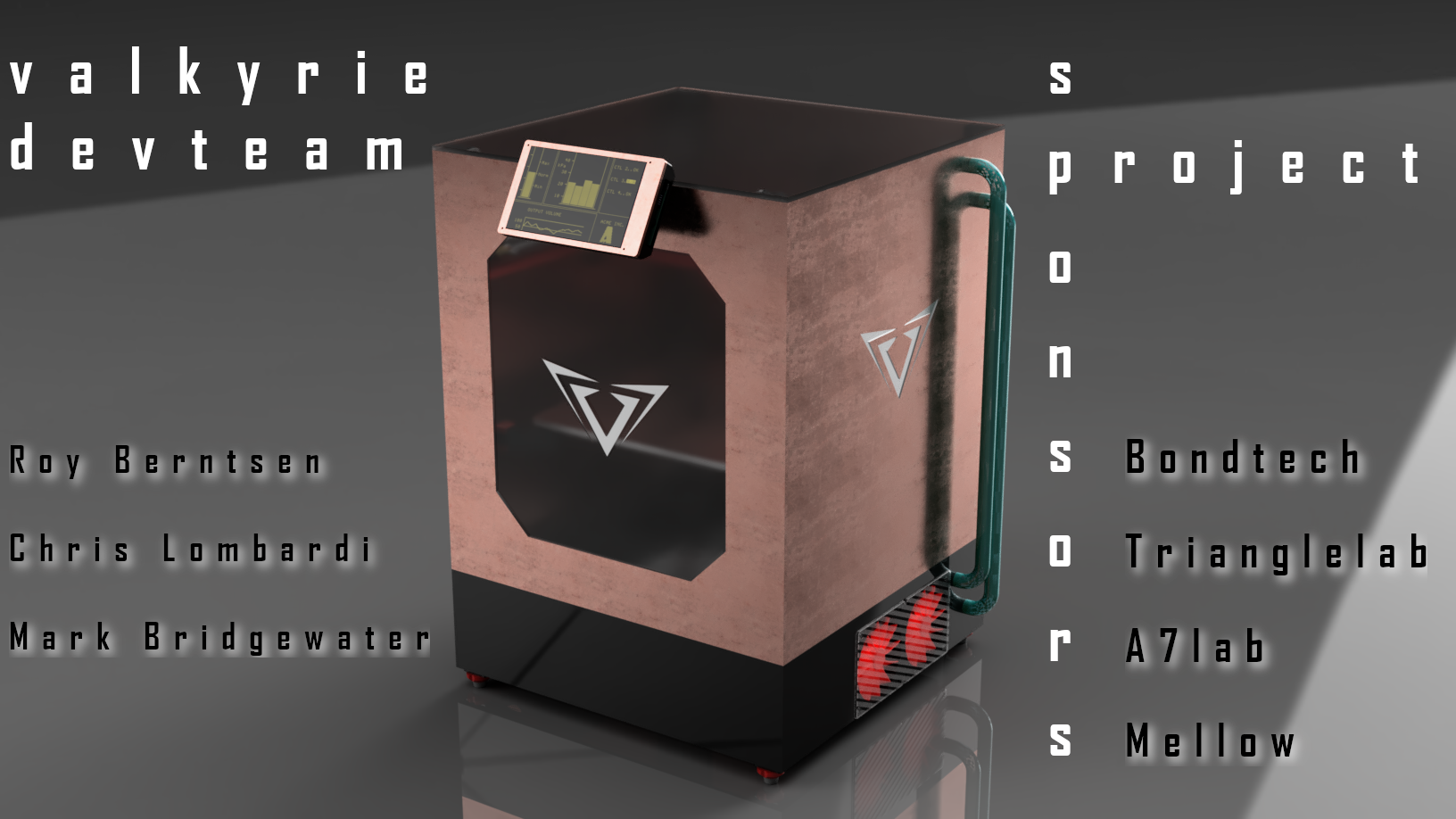
Project Valkyrie

Designing a Premium DIY 3d printer

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



# By Roy Berntsen

M.Sc Engineering Design

Juli 2021

# The Development Team

Roy Berntsen

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

# Design Requirements

|  |  |  |  |
| --- | --- | --- | --- |
| Enclosure Panel Requirements | Essential | Nice To Have | Not So Important |
| Insulative | X |  |  |
| Low Price |  | X |  |
| Low weight |  |  | X |
| High strength |  | X |  |
| Endure high temperature < 90c | X |  |  |
| Nice outer finish |  | X |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Drybox Panel Requirements | Essential | Nice To Have | Not So Important |
| Insulative | X |  |  |
| Low Price |  | X |  |
| High strength |  | X |  |
| Endure high temperature < 90c | X |  |  |
| Ease of assembly | X |  |  |

# Shortlist of Materials for Enclosure

|  |  |  |  |
| --- | --- | --- | --- |
| Material | Temp Rating |  | Comment |
| MDF |  |  |  |
| ACM FR |  |  |  |
| ACM |  |  |  |

# Shortlist of Materials for Drybox

|  |  |  |  |
| --- | --- | --- | --- |
| Material | Temp Rating |  | Comment |
| MDF |  |  |  |
|  |  |  |  |
|  |  |  |  |

# Supplier List