

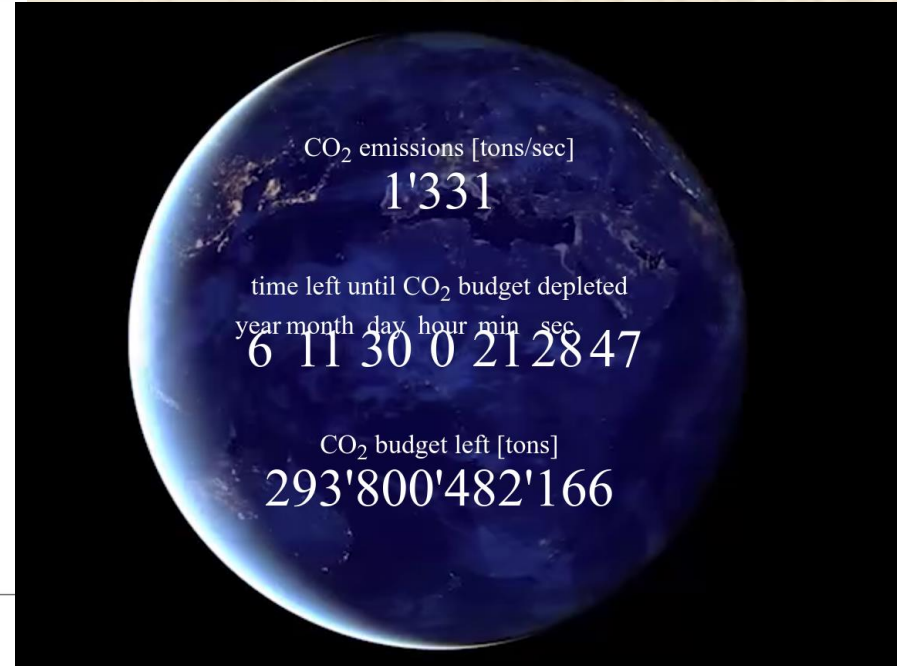
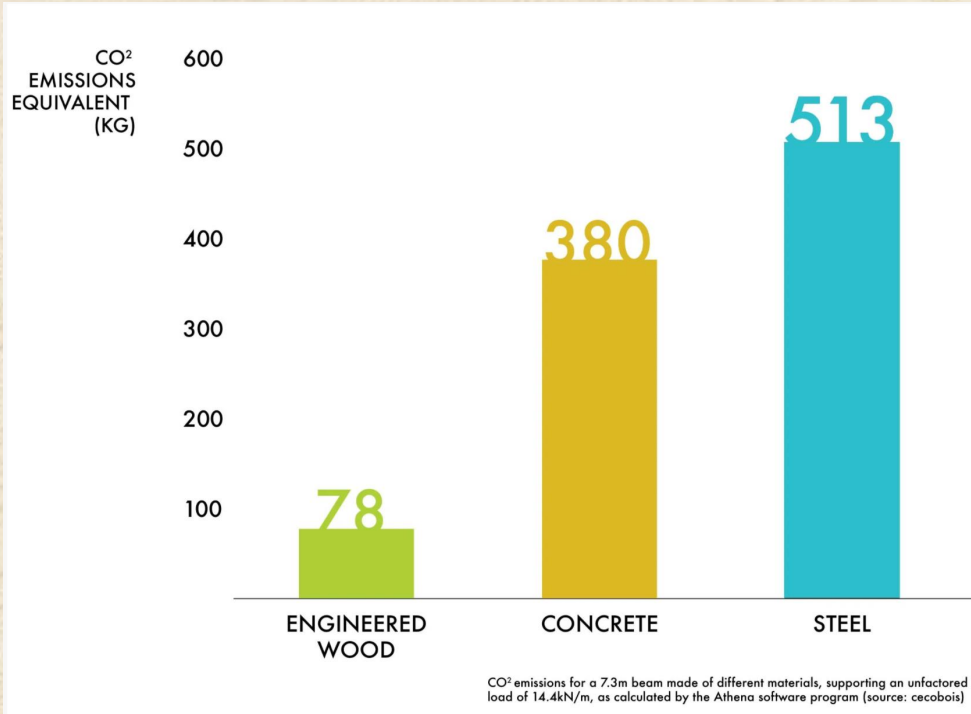


MODULAR  
DATA CENTER

# Sustainable Wooden MDC 2021

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Stefan Frenzel, OCP Representative DACH-Region

# Why? 1,5 degrees is only 7 Years away!



# Why: Scope 3 - Measuring CO2 in DCs



## Scope 1

Emissions from  
burning fossil fuels,  
running backup  
generators

**Solved!**



## Scope 2

Emissions from  
electricity.

**Solved!**



## Scope 3

Emissions from supply  
chain, sourcing of  
servers, construction  
of data centres, etc..

**Challenge of the  
Decade!!!**



# How



HoHo Vienna,  
Austria – wooden  
skyscraper



Mjøsa Tower Oslo,  
Norway – wooden  
skyscraper



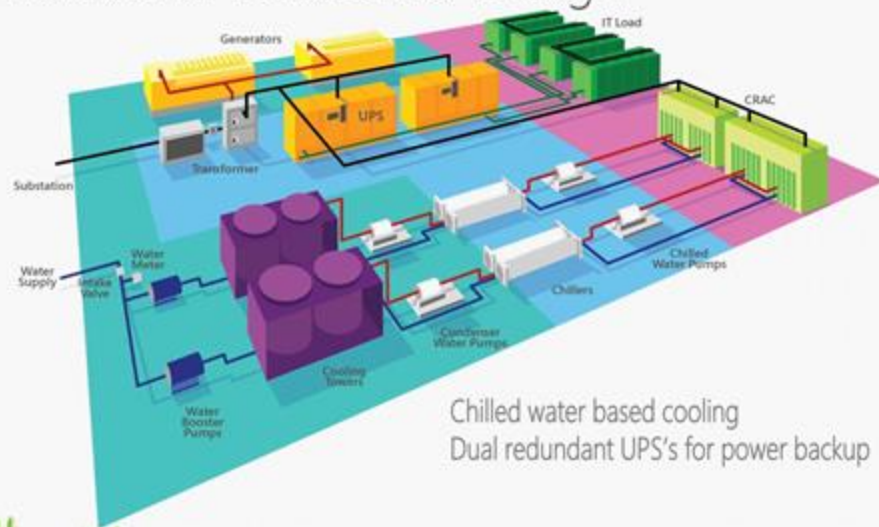
EcoDataCenter  
Falun, Sweden –  
wooden data centre



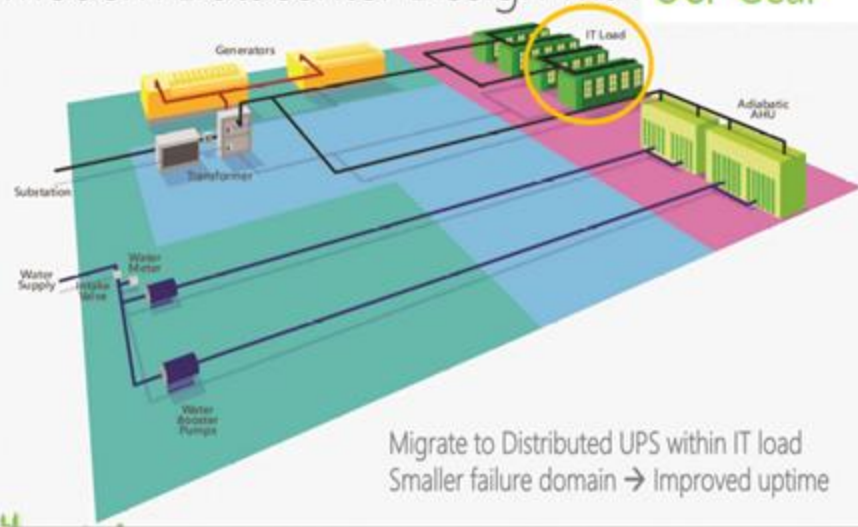
Boden Type One DC  
Boden, Sweden –  
wooden data centre

# How: Future Of Compute

## Traditional Datacenter Design

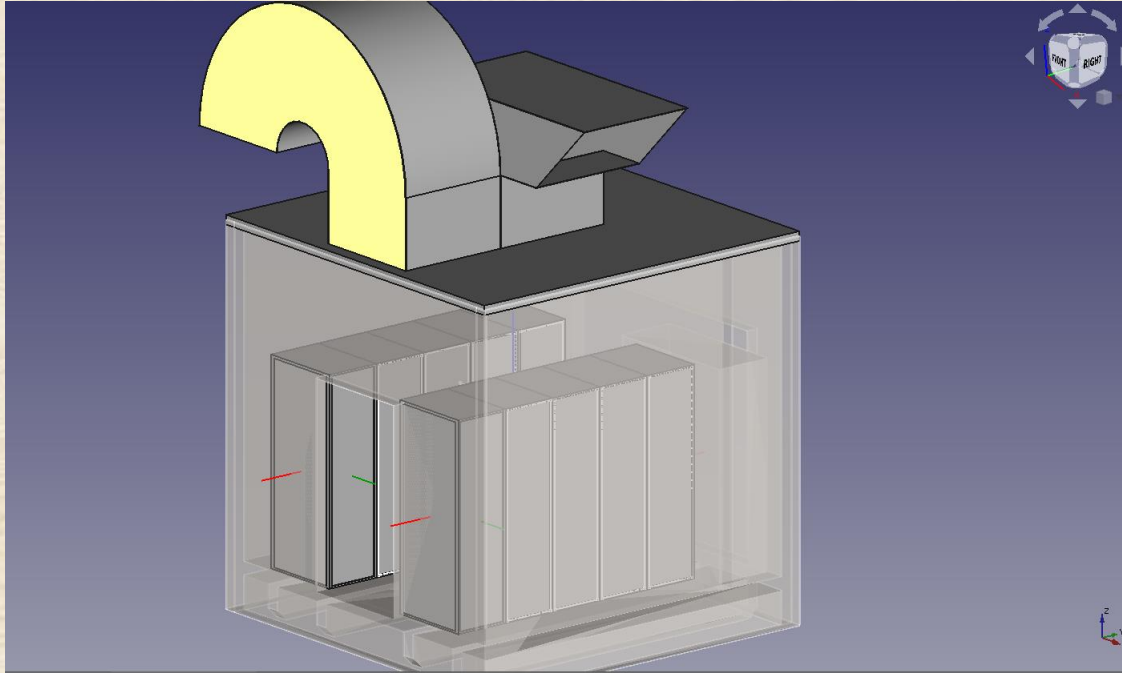


## Modern Datacenter Design with OCP Gear



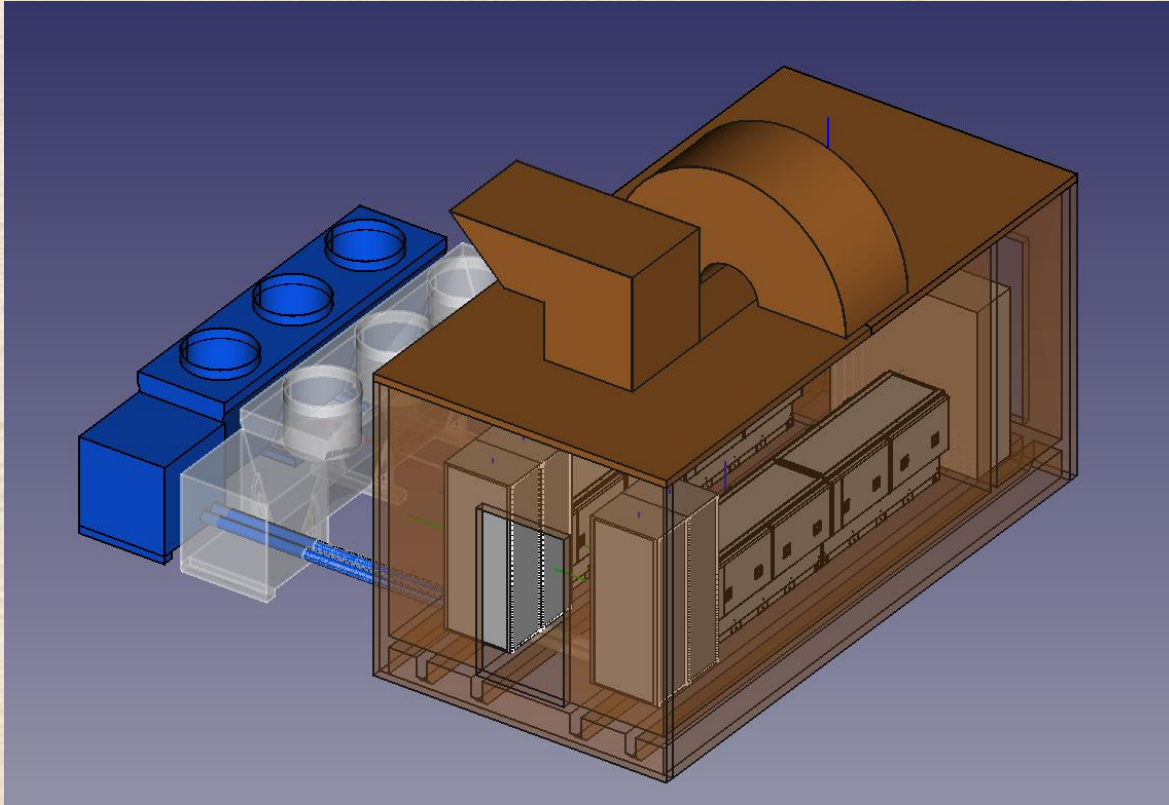


# Woody



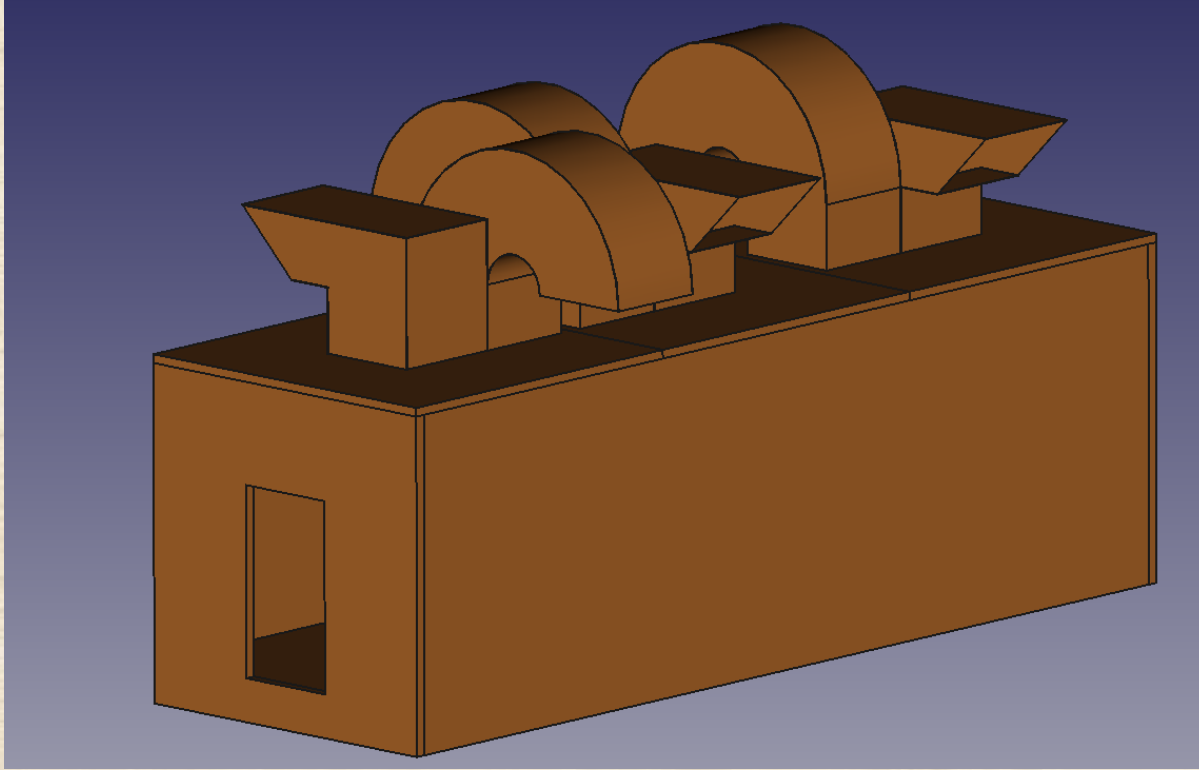
- 1.125 sqm/rack
- 10 OCP racks/150 kw
- Redundant fan drive
- Fits in 20" container
- 4x4x4m

# Woodpecker



- 1.125 sqm/rack
- 22 OCP racks/330 kw
- Redundant fan drive
- Fits in 40" container
- 4x4x8m

# Knock on Wood



1.125 sqm/rack  
34 OCP racks/510 kw  
Redundant fan drive  
Fits in 40" container  
4x4x12m



# Comparison I: Why Wood is Good?



## Speed\*:

DC= 12 months

MDC= 6 months

WMDC= 3 months



## Cost:

DC= 7k €/kw

MDC=7k €/kw

WMDC= 1.5k €/kw



## Scope 3:

DC= concrete/CO2

MDC= steel/CO2

WMDC= wood/CO2

\*\*

# Armor-plated wooden infrastructure

Weather protection

Insulation

Armored Steel plate

Kevlar

Fire-protective coating

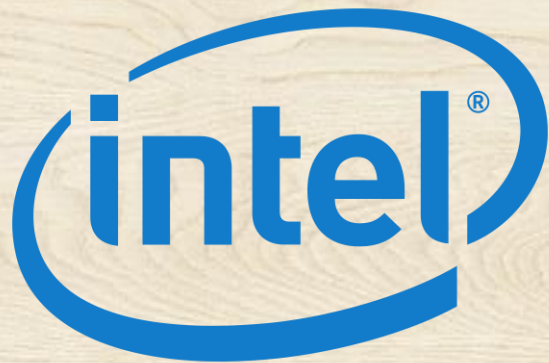
Wood (CSP, X-LAM)

Fire-protective coating



# Hardware Options

- Any OCP spec Hardware
- AMD CPUs Possible
- All Enterprise GPUs Systems Possible





# DC Options

- **Immersion cooling:** Asperitas, Kaori, Submer
- **Free Cooling:** Eco Cooling
- **Liquid cooling:** Blockheating
- **Heat reuse:** with immersion and liquid cooling enabled
- **Availability classes:** Tier II to Tier 4

# Call to Action

Look the Data Center Files:

## Contact us

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Connect to OCP SUBGROUP:

Project Wiki with latest specification :

[https://www.opencompute.org/wiki/Data\\_Center\\_Facility/MDC](https://www.opencompute.org/wiki/Data_Center_Facility/MDC)

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