



# Transforming New Product Development with Open Hardware

Stephano Cetola

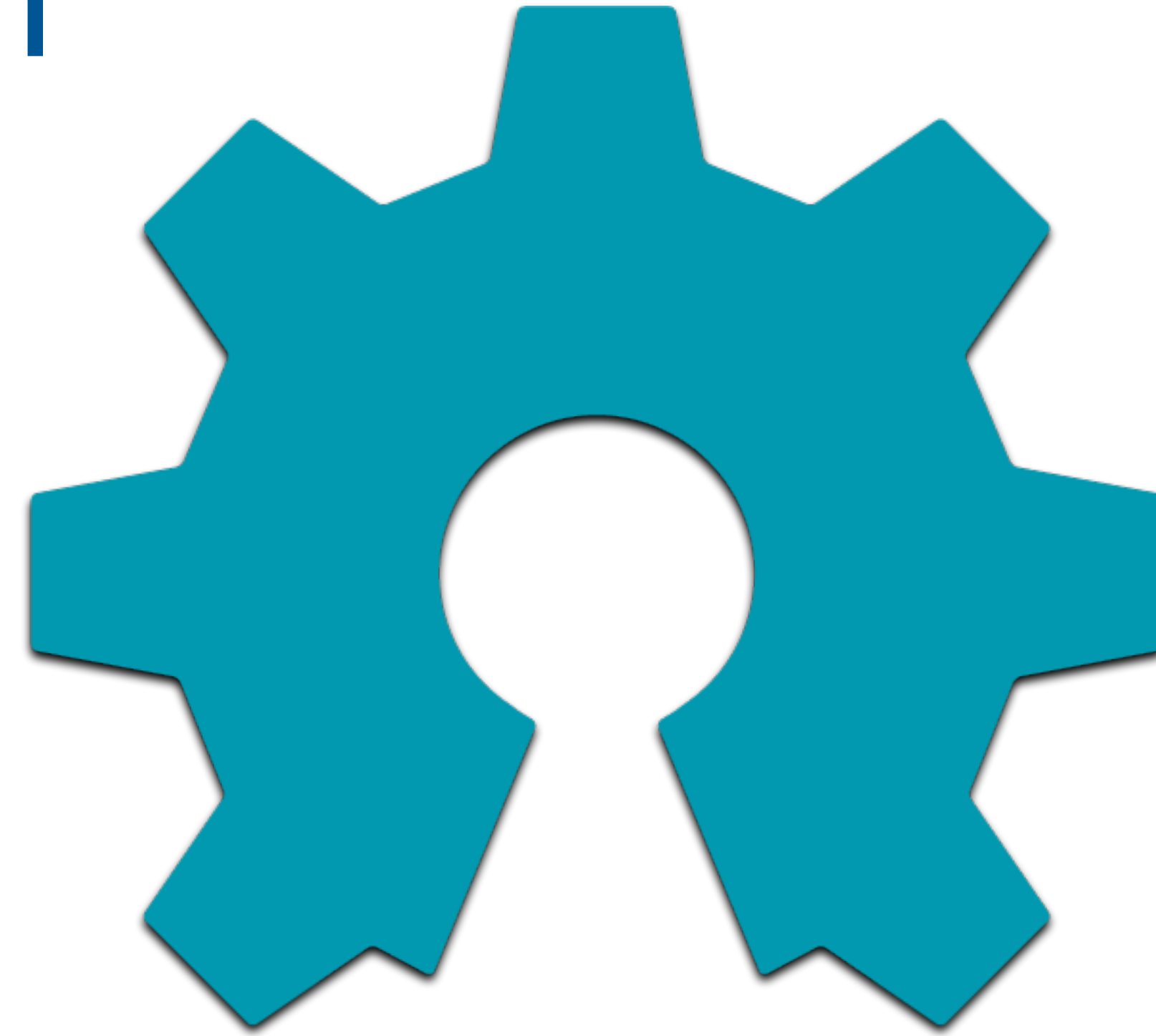
Intel Open Source Technology Center



# What we talk about when we talk about...

Open Source Hardware (OSHW) is a term for tangible artifacts whose design has been released to the public in such a way that anyone can make, modify, distribute, and use those things.

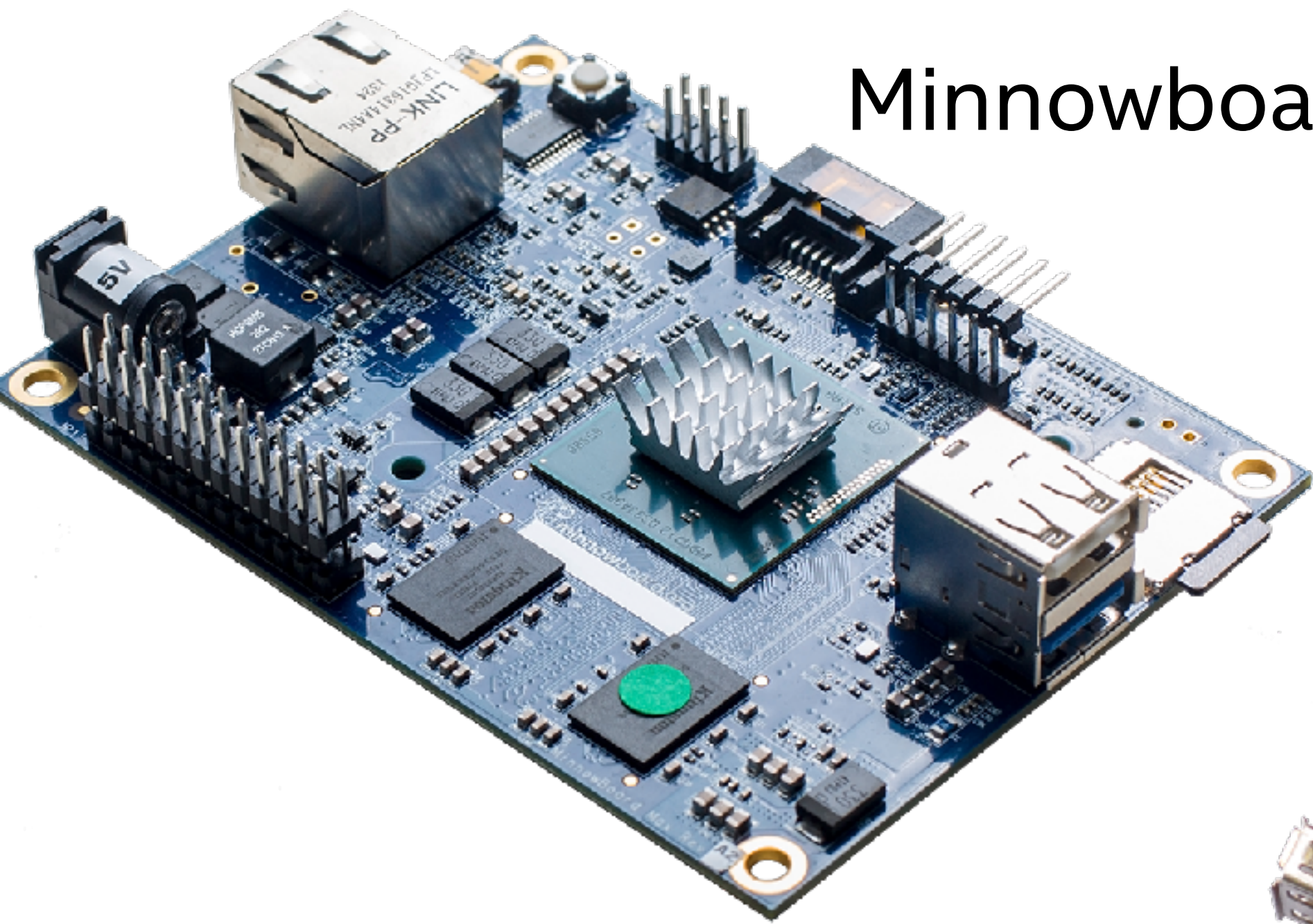
— [oshwa.org](https://oshwa.org)



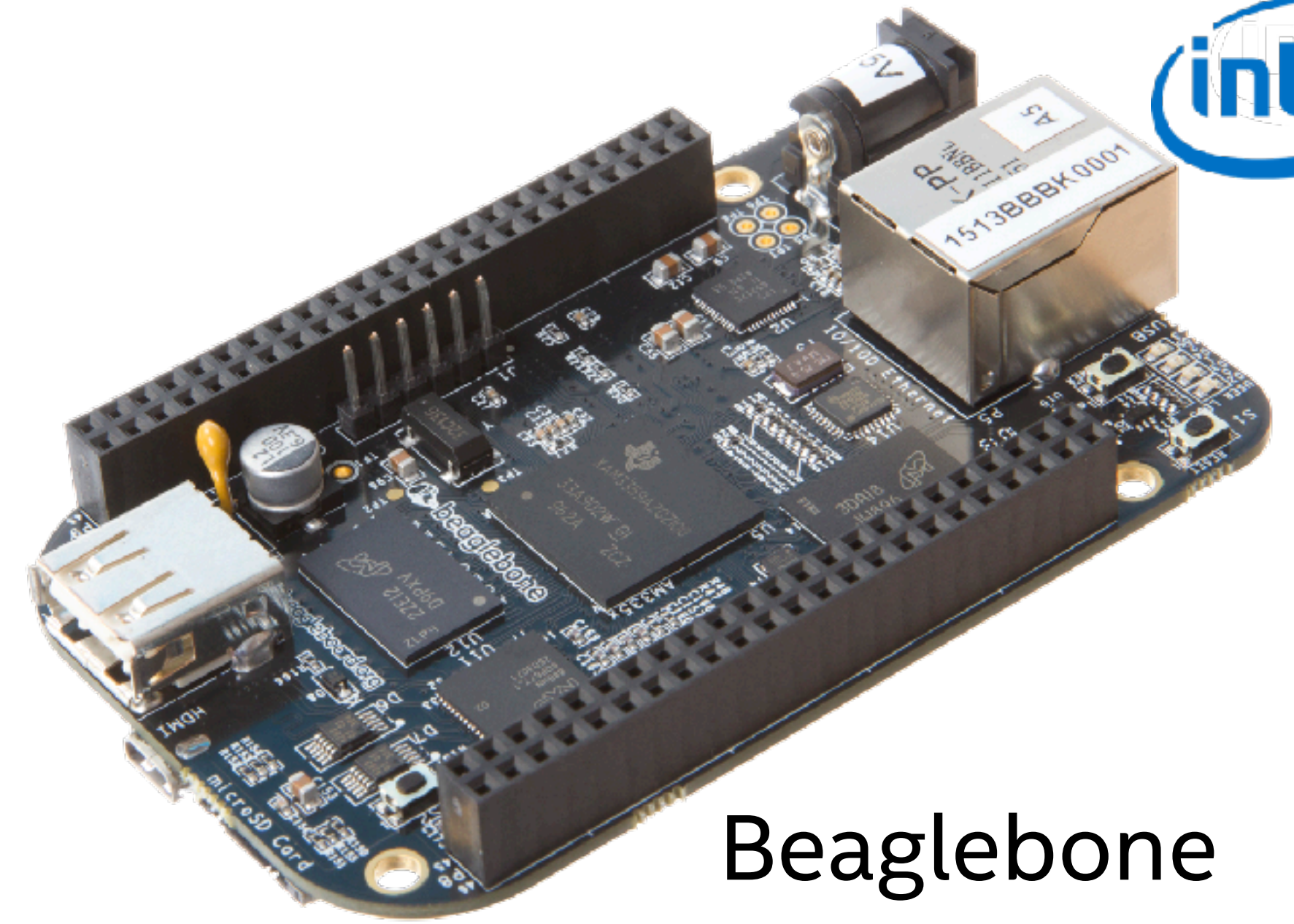
\*Other names and brands may be claimed as the property of others.



Minnowboard Turbo



Beaglebone



Olimex



\*Other names and brands may be claimed as the property of others.







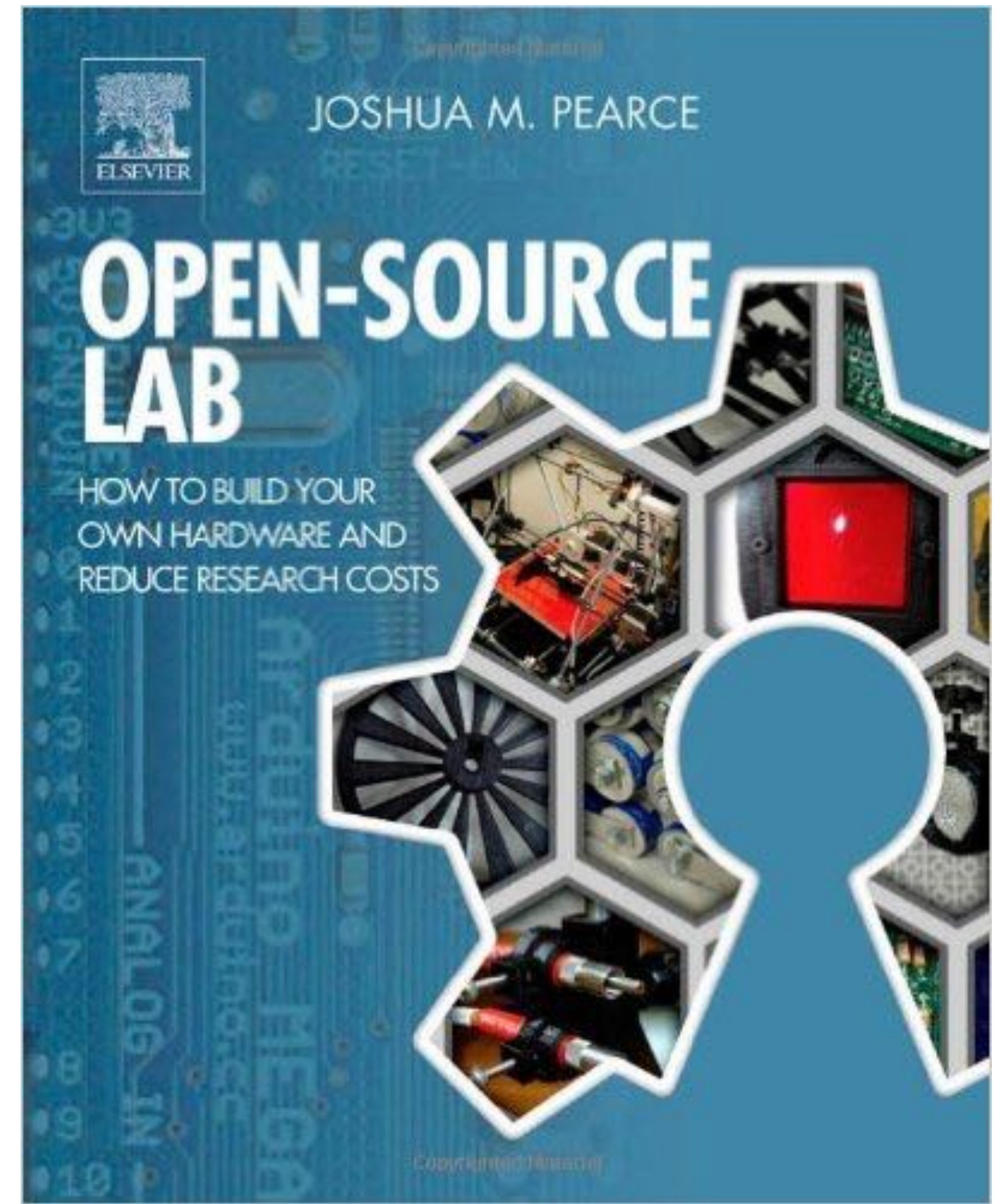
How can this help?

# Think Like a Maker

- Hack your proof of concept
- Open Source Hardware is free(dom)
- Always be creating (ABC)

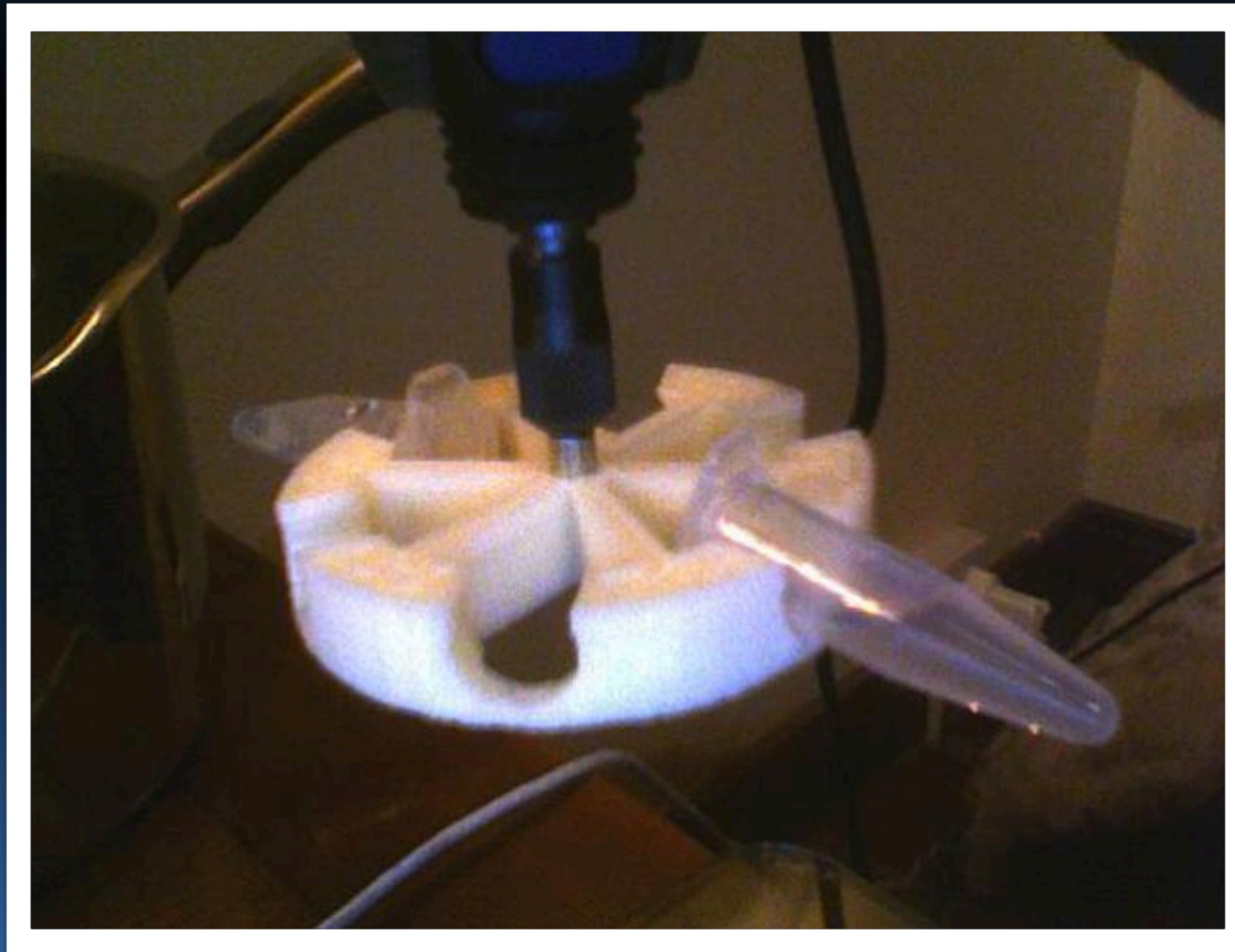
# OSHW in Research

- Instructions on how to take advantage of digital design sharing
- Explanations of Arduinos and RepRaps for scientific use





# DREMELFUGE

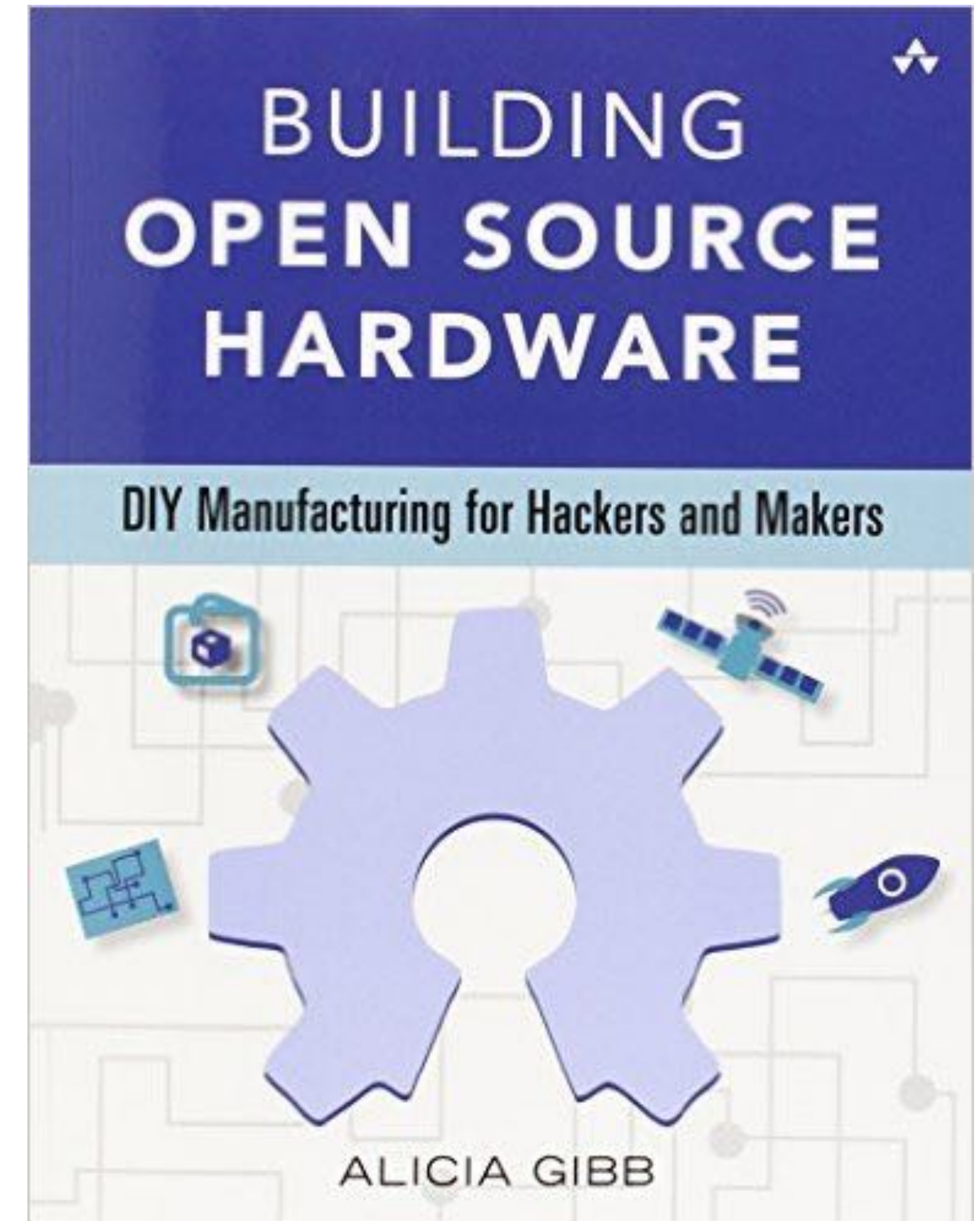


Designed and open-sourced by  
Cathal Garvey, <http://www.thingiverse.com/thing:1483>



# Always be building

- OSHW History
- Design Process
- Derivatives
- 3D Printing
- Production & Manufacturing





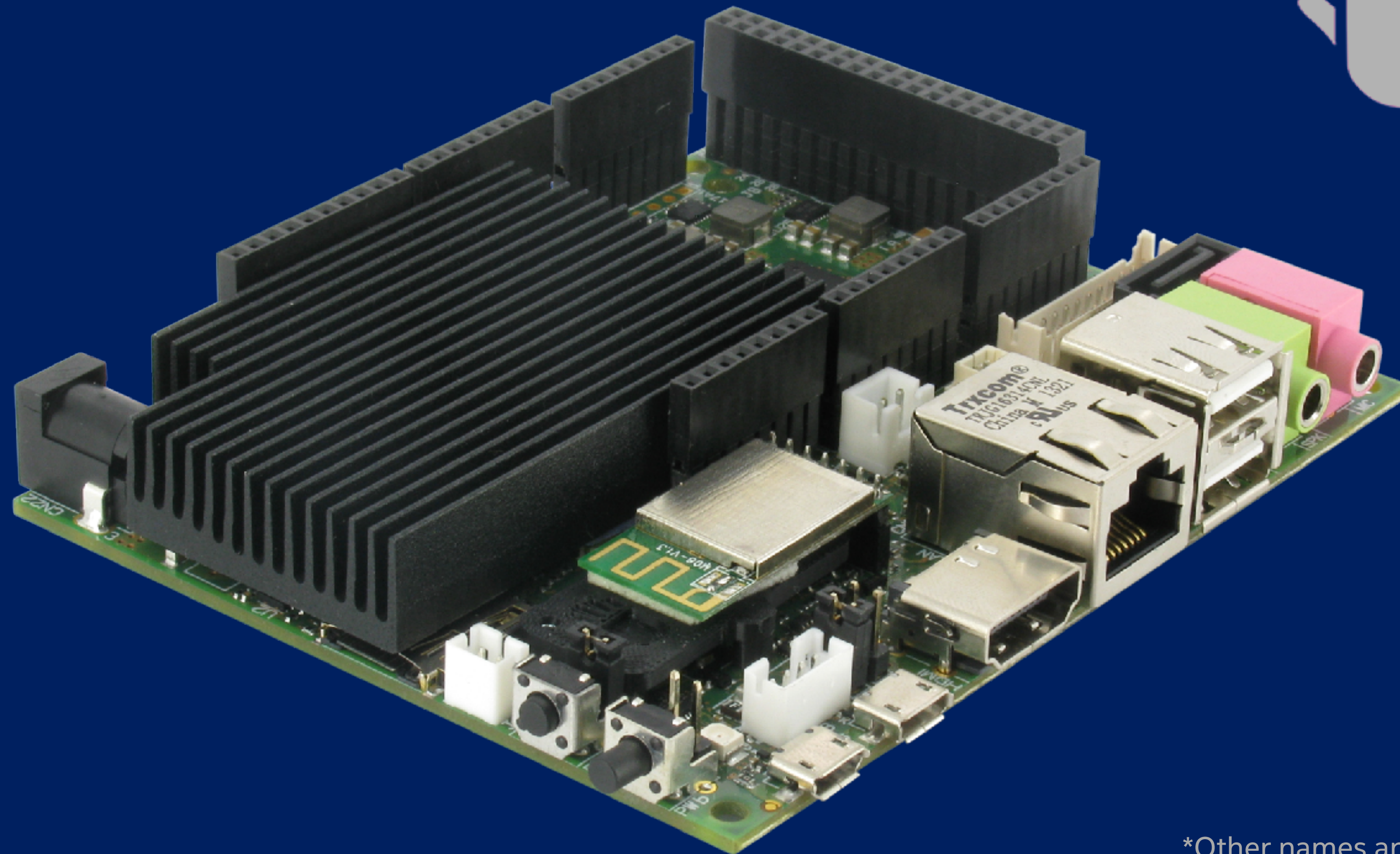
# Hack Your POC

- Build first, ask questions later
- Prototype early and often
- Use patents specs and drawings (not claims)
- Purchase off the shelf if needed (ebay, alibaba)





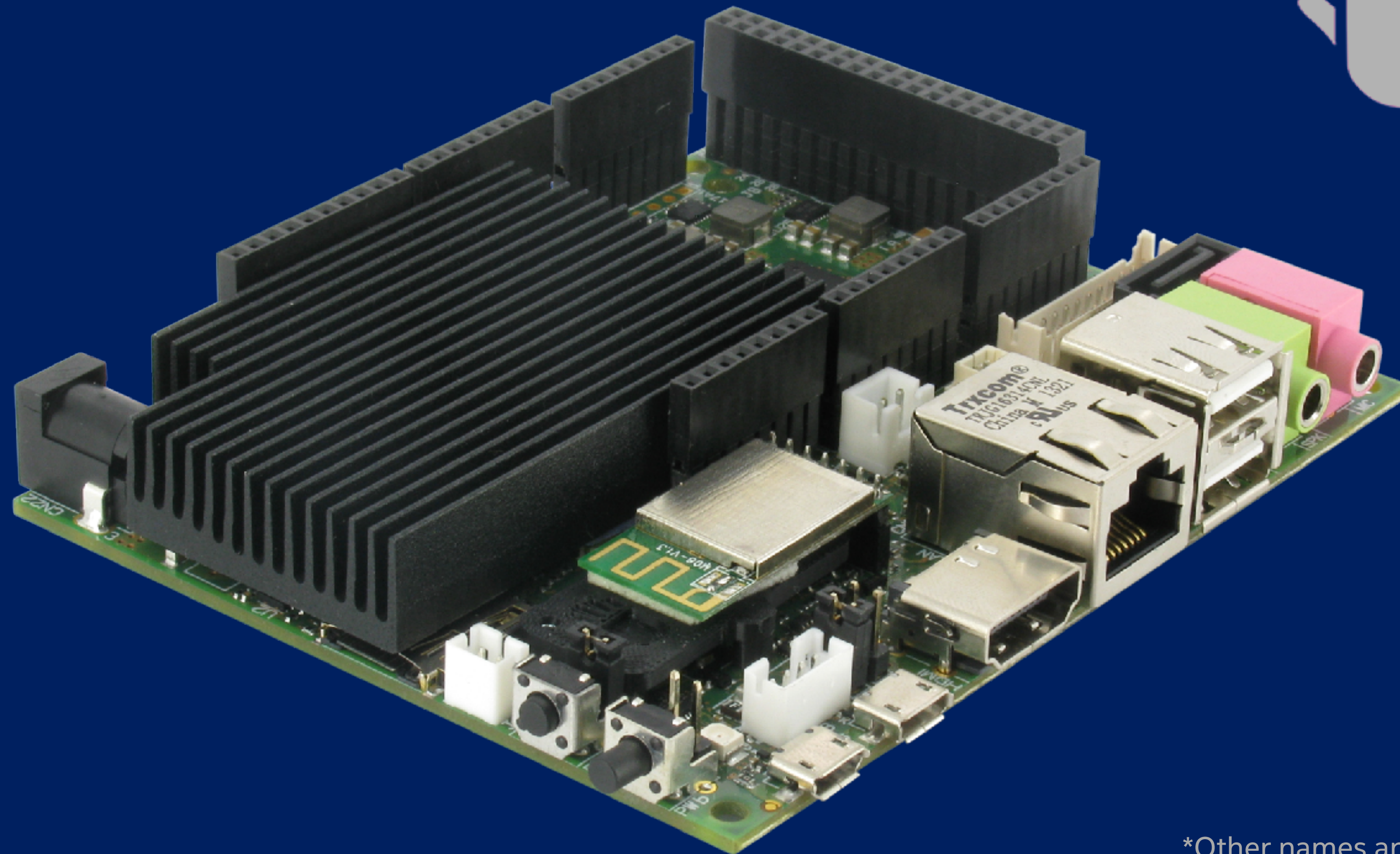
# Share the knowledge



w/ multitouch



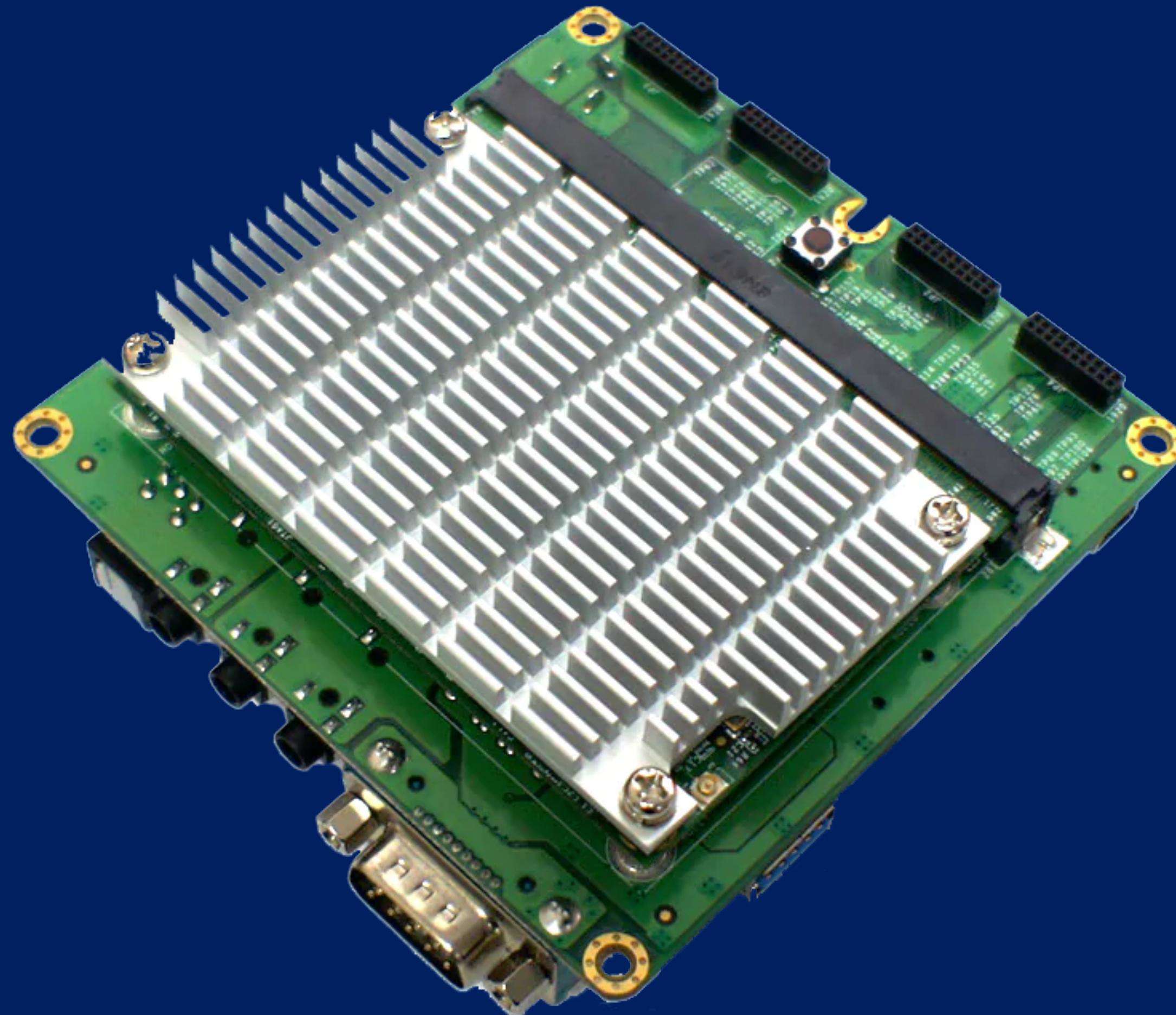
# Don't reinvent the wheel



w/ Android



# Learn from other's success



**Micrel PHY "Feature"**



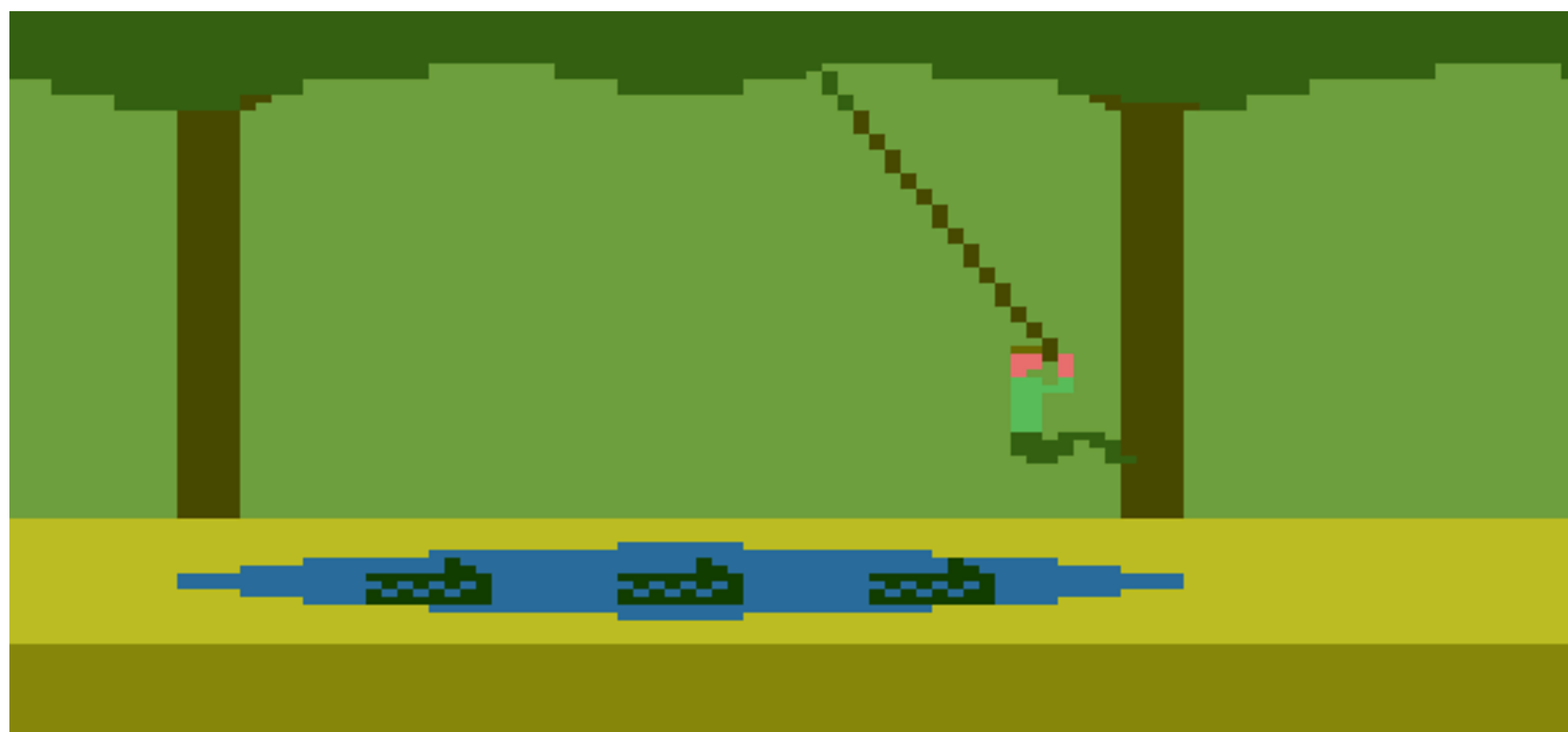
# Free as in Freedom

IT'S DANGEROUS TO GO  
ALONE! TAKE THIS.





# Traps & Pitfalls

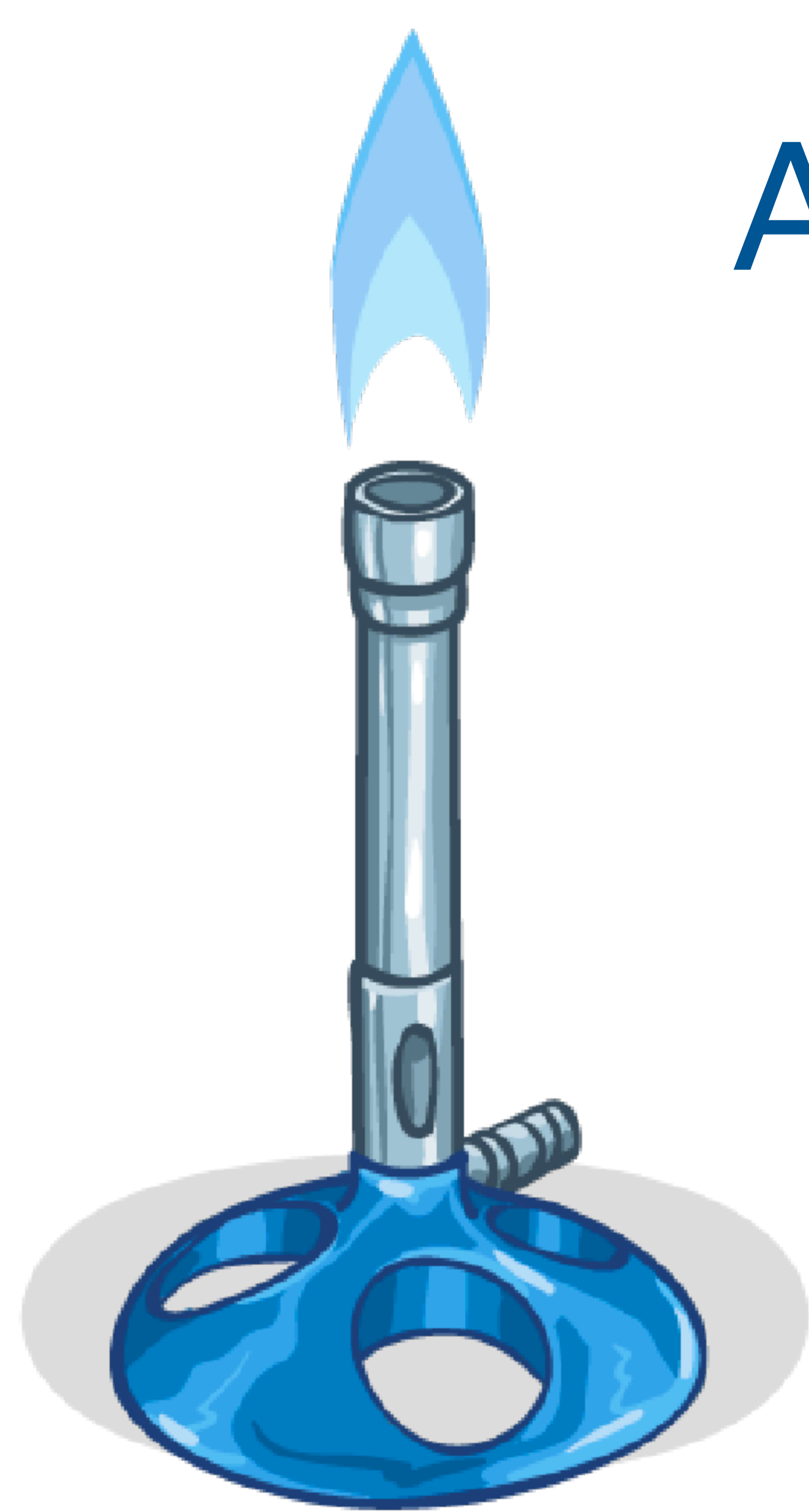


- Confusing the customer
- Loosing sight of the target
- Always "take 5" and talk to legal



# ALWAYS THINK OPEN

- Think like a maker
- Be part of a community
- Hack first, gather data later





# Questions

@stephano

stephano.cetola@intel.com