



Building your First Combat Robot

Nothing shows pride like letting others destroy what you've built!

Who Am I?

Robert K.

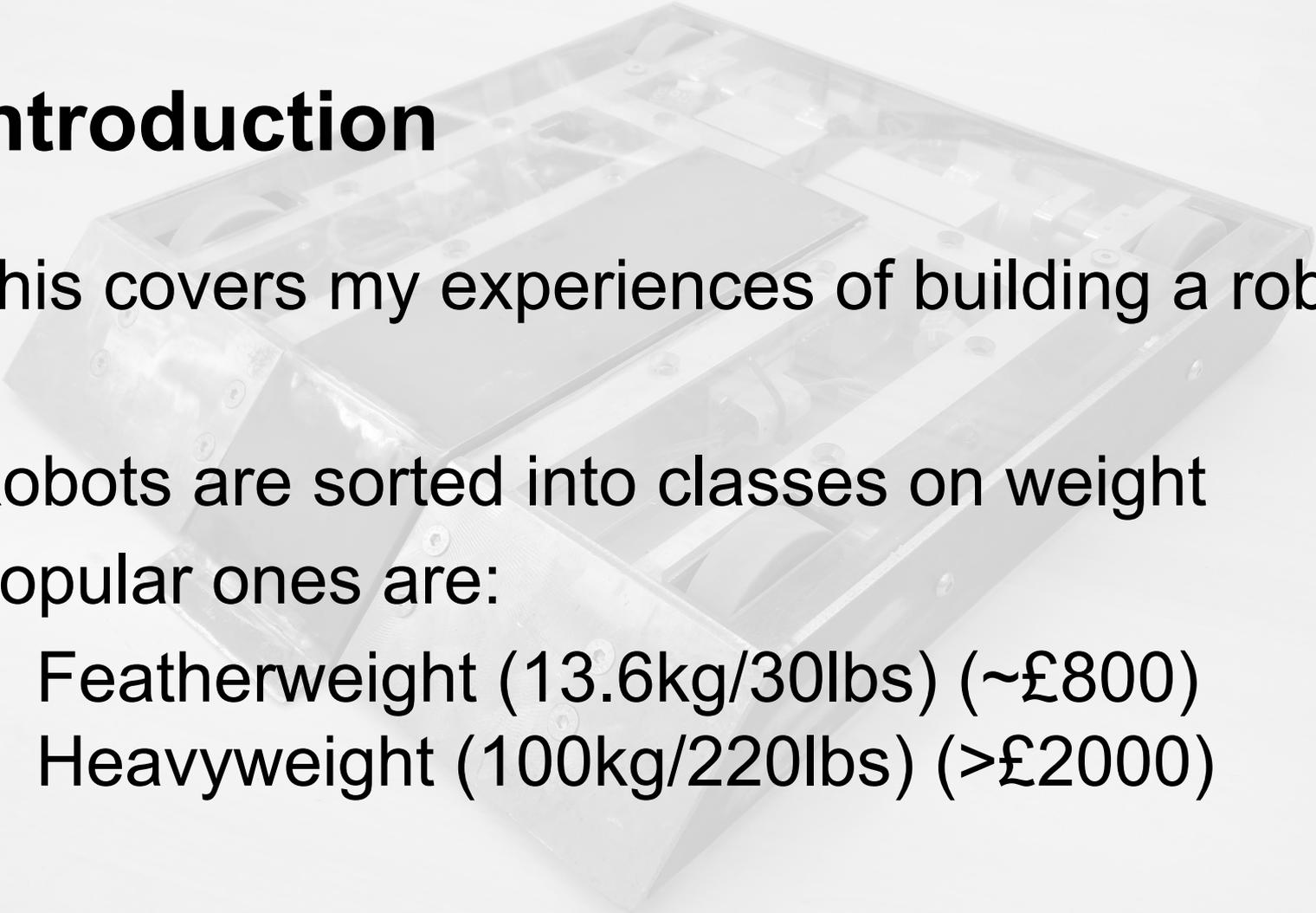
Fan of combat robotics since 1998

@pinski1_

wiresandbits.co.uk



Introduction



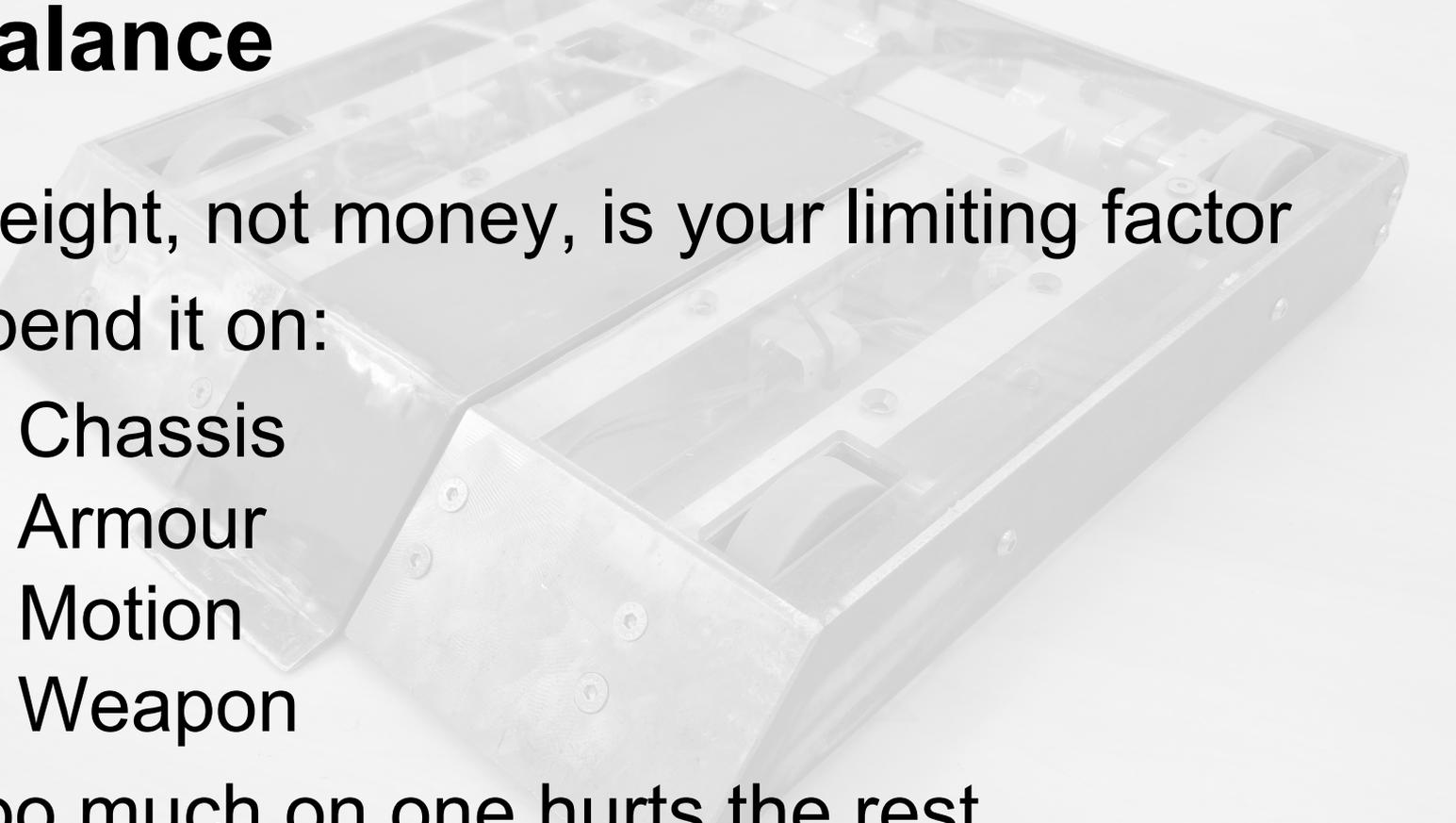
This covers my experiences of building a robot

Robots are sorted into classes on weight

Popular ones are:

- Featherweight (13.6kg/30lbs) (~£800)
- Heavyweight (100kg/220lbs) (>£2000)

Balance



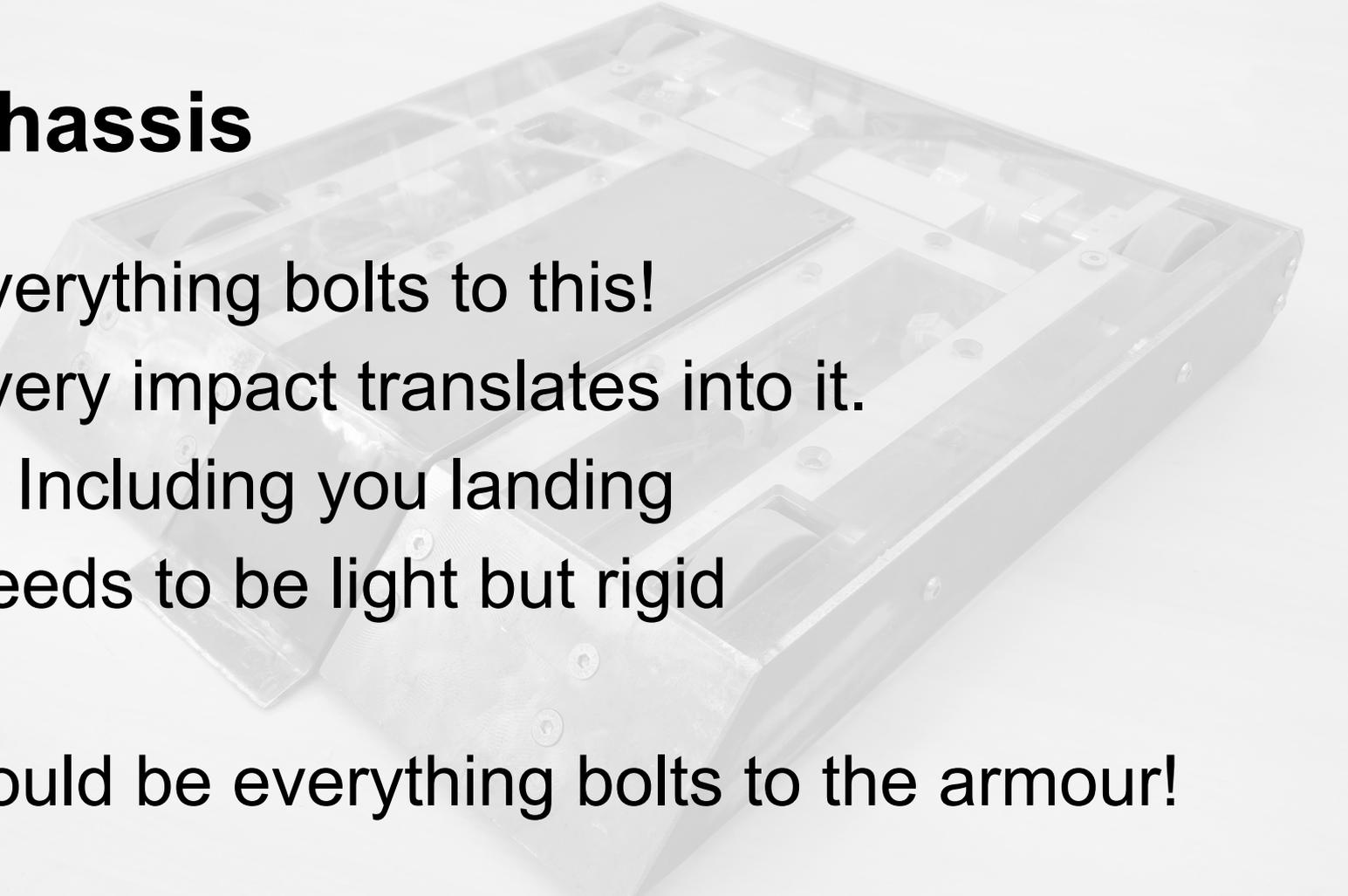
Weight, not money, is your limiting factor

Spend it on:

- Chassis
- Armour
- Motion
- Weapon

Too much on one hurts the rest.

Chassis



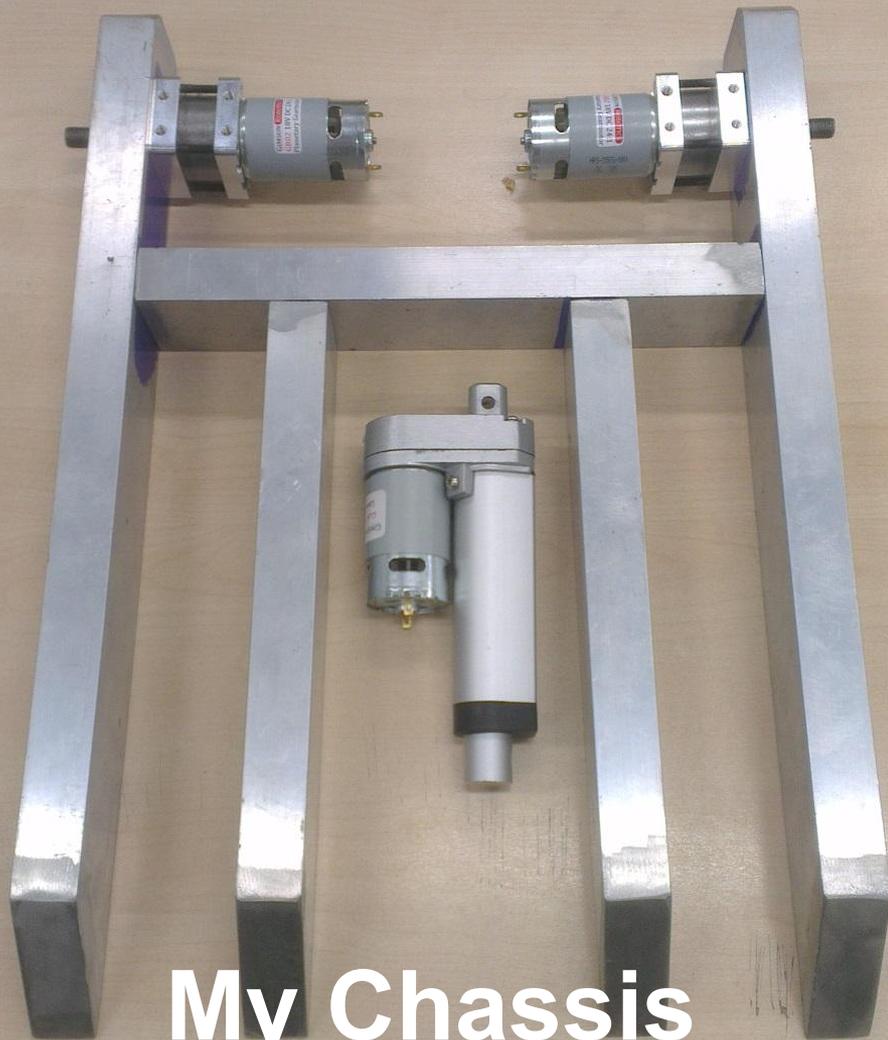
Everything bolts to this!

Every impact translates into it.

Including you landing

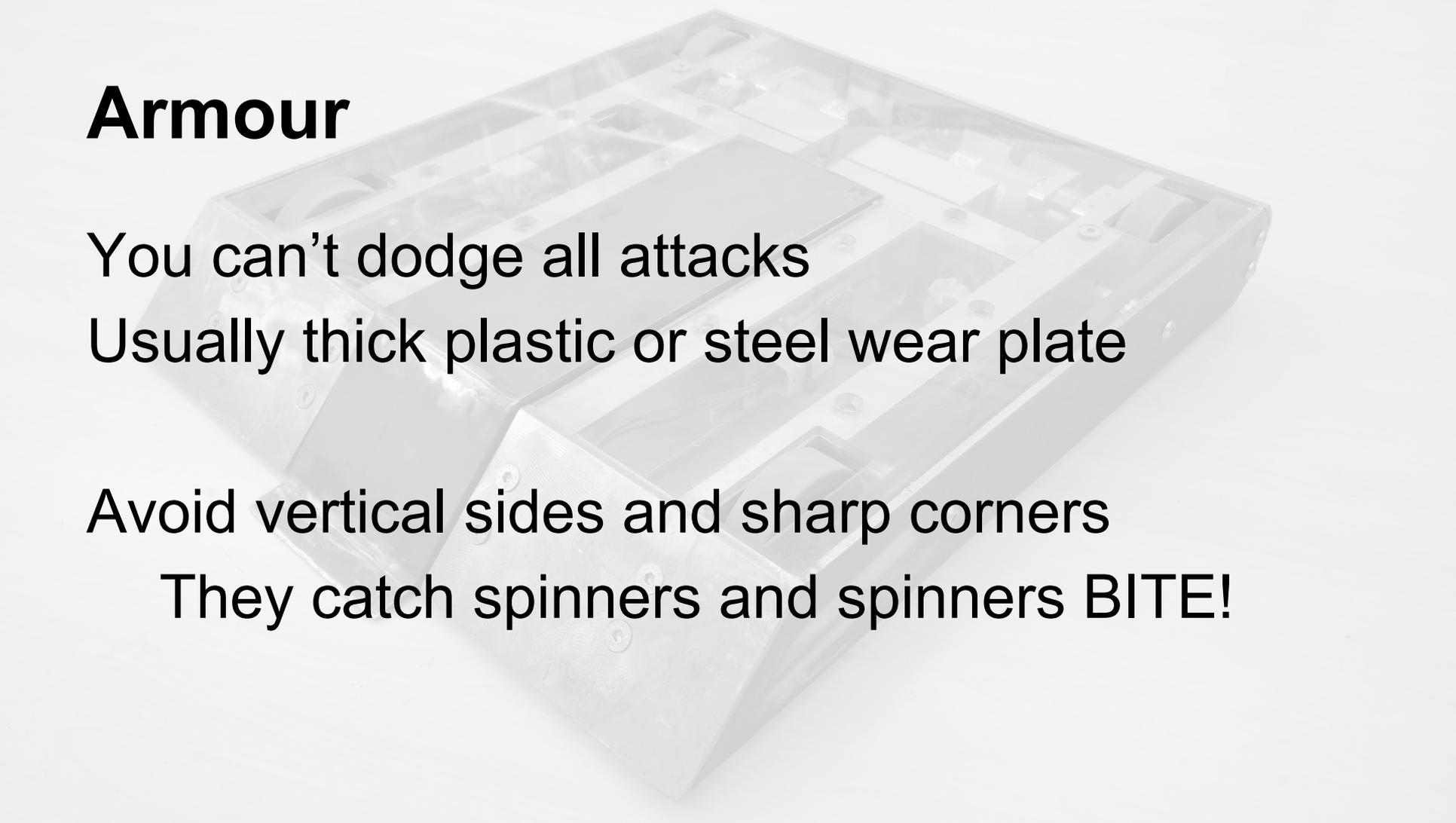
Needs to be light but rigid

Could be everything bolts to the armour!



My Chassis

Armour

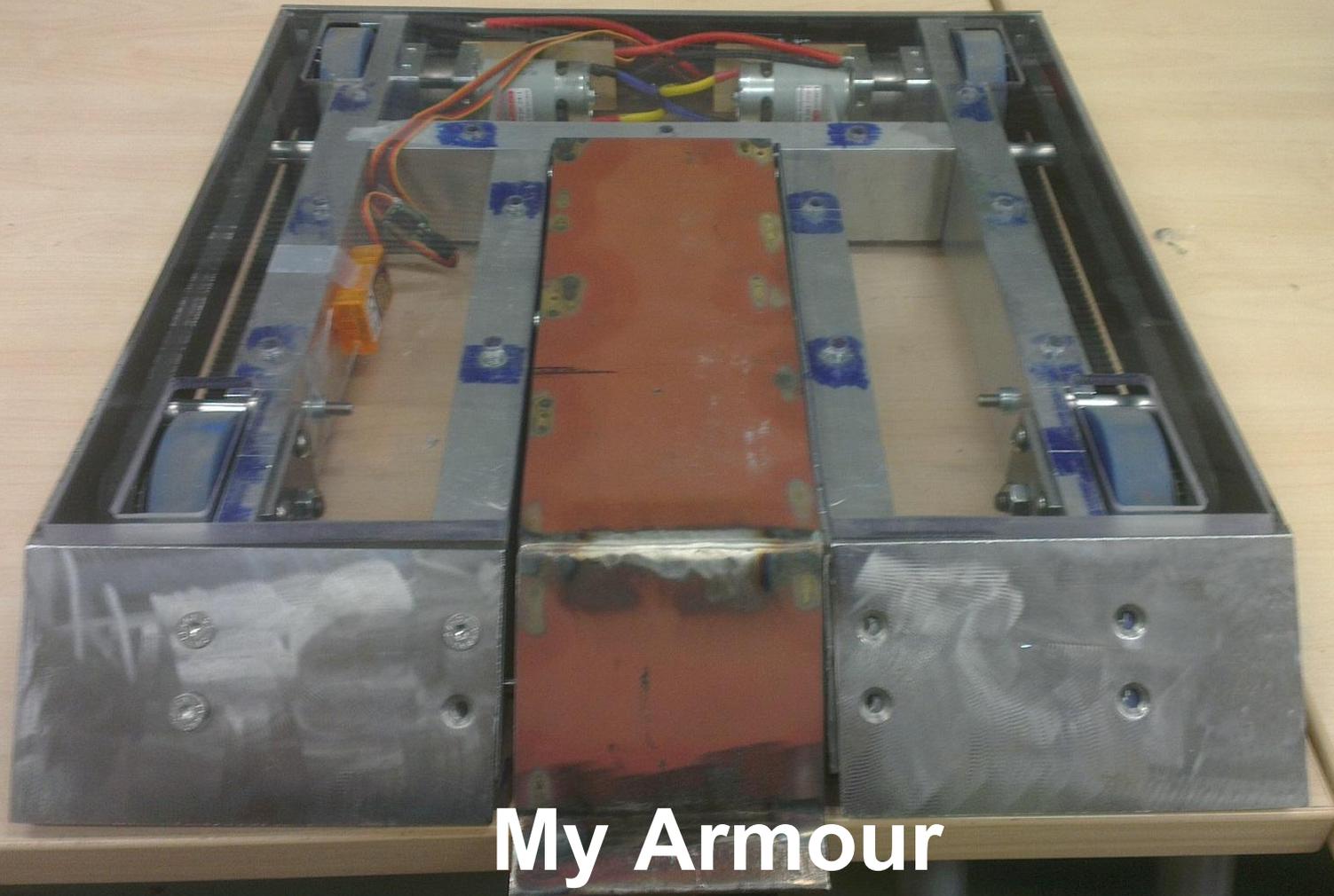


You can't dodge all attacks

Usually thick plastic or steel wear plate

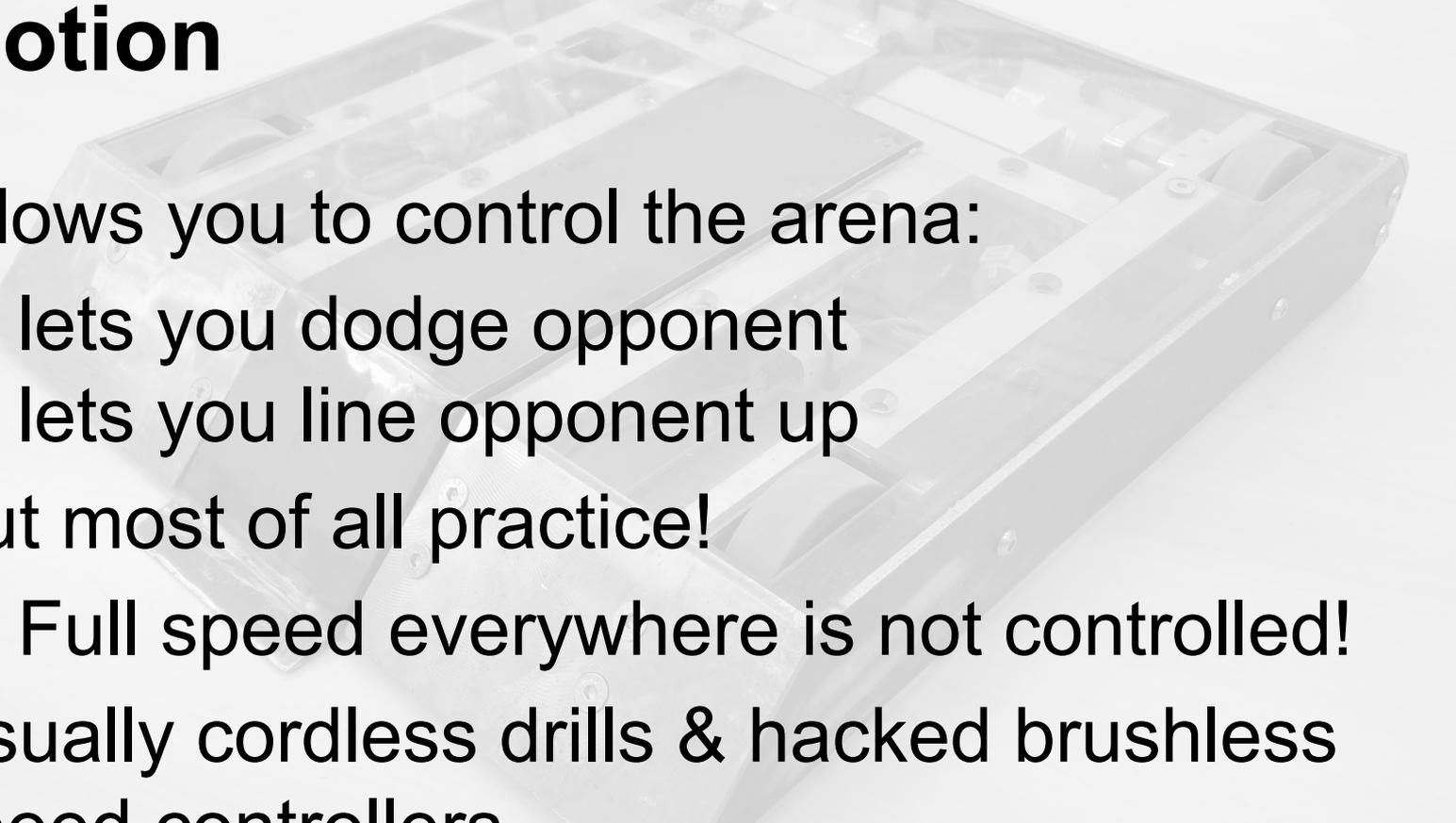
Avoid vertical sides and sharp corners

They catch spinners and spinners BITE!



My Armour

Motion



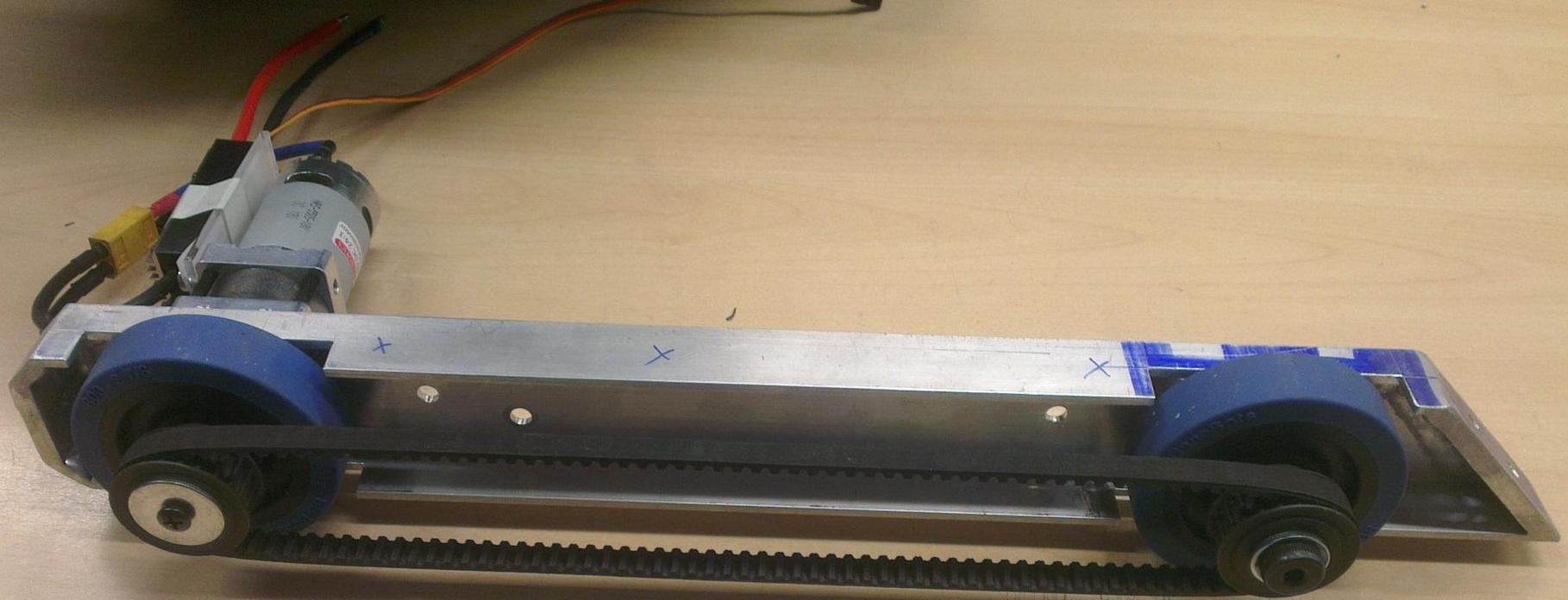
Allows you to control the arena:

- lets you dodge opponent
- lets you line opponent up

But most of all practice!

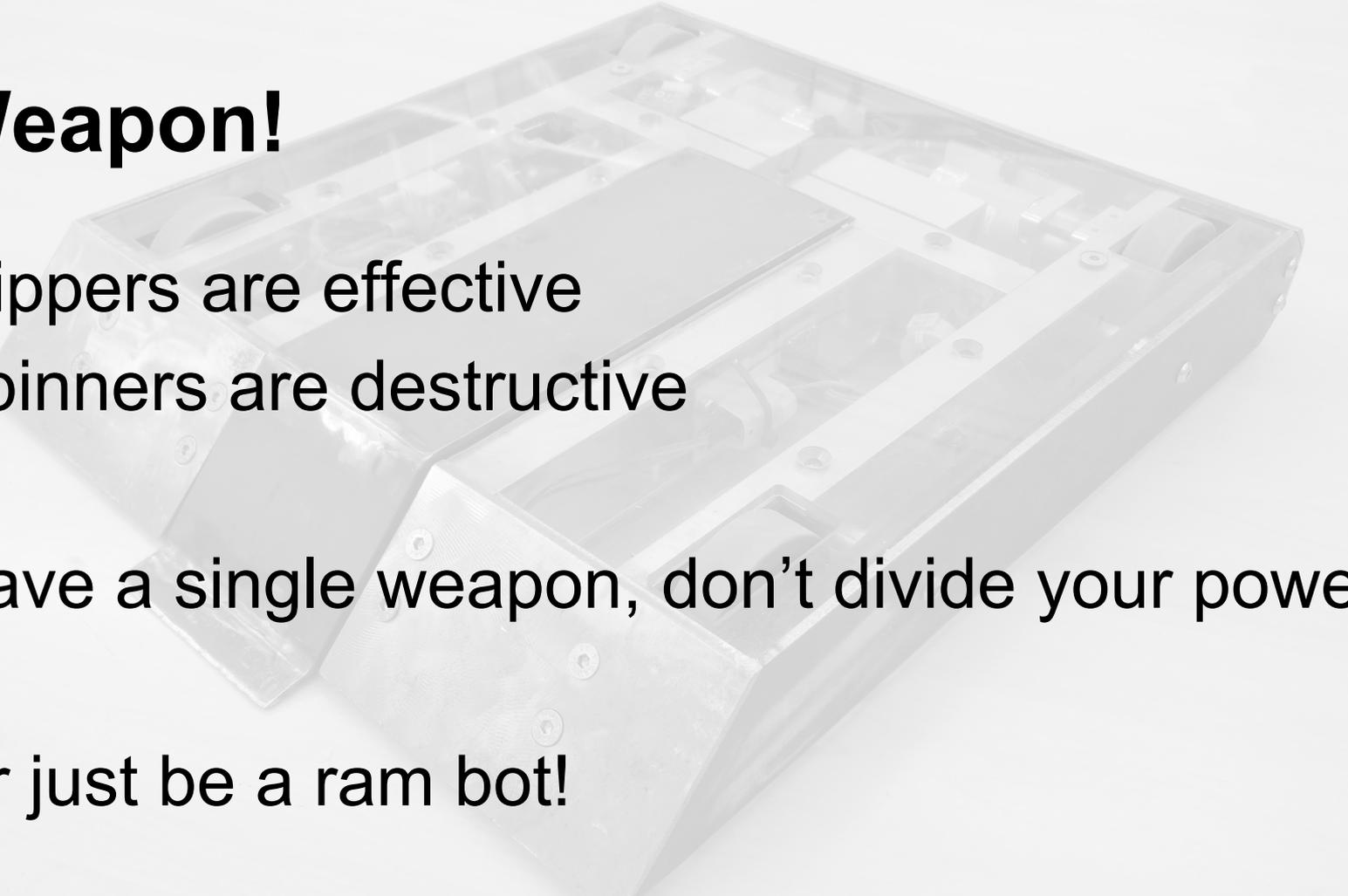
Full speed everywhere is not controlled!

Usually cordless drills & hacked brushless speed controllers



My Motors and Wheels

Weapon!



Flippers are effective

Spinners are destructive

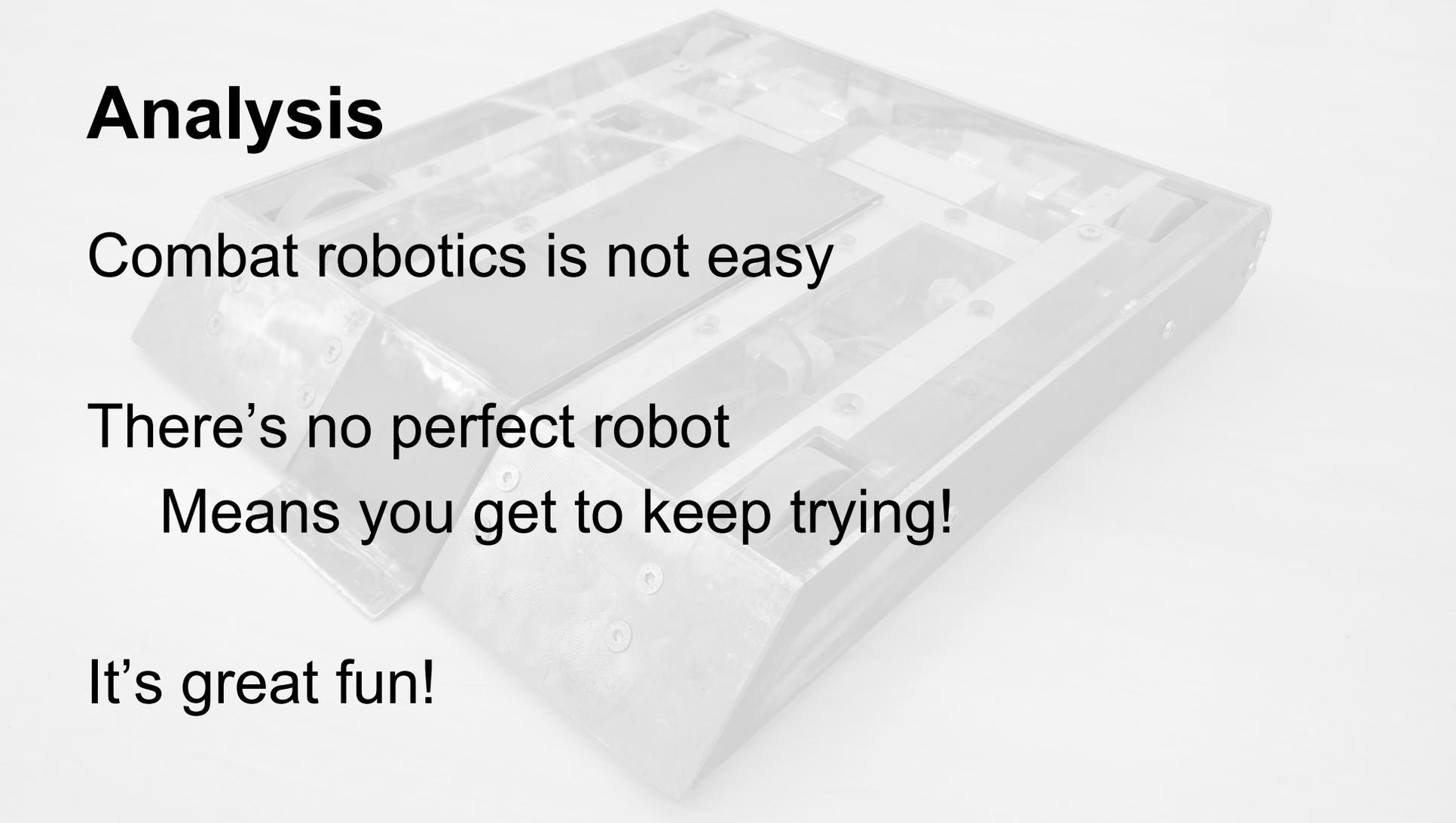
Have a single weapon, don't divide your power

Or just be a ram bot!



My Weapon!

Analysis



Combat robotics is not easy

There's no perfect robot

Means you get to keep trying!

It's great fun!

Resources



fightingrobots.co.uk

sparc.tools

robowars.com

etotheipiplusone.net

Thanks for listening, any questions?