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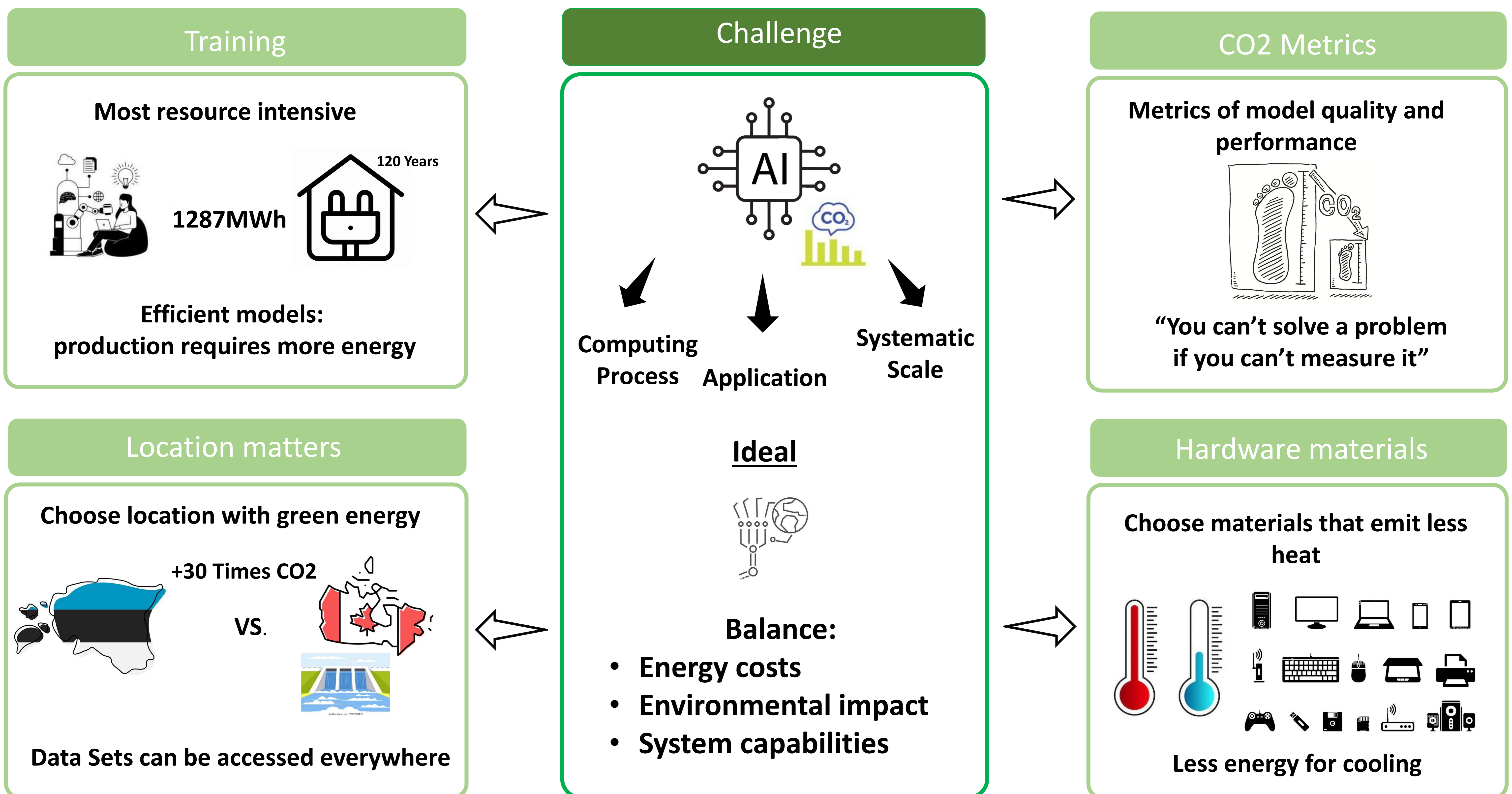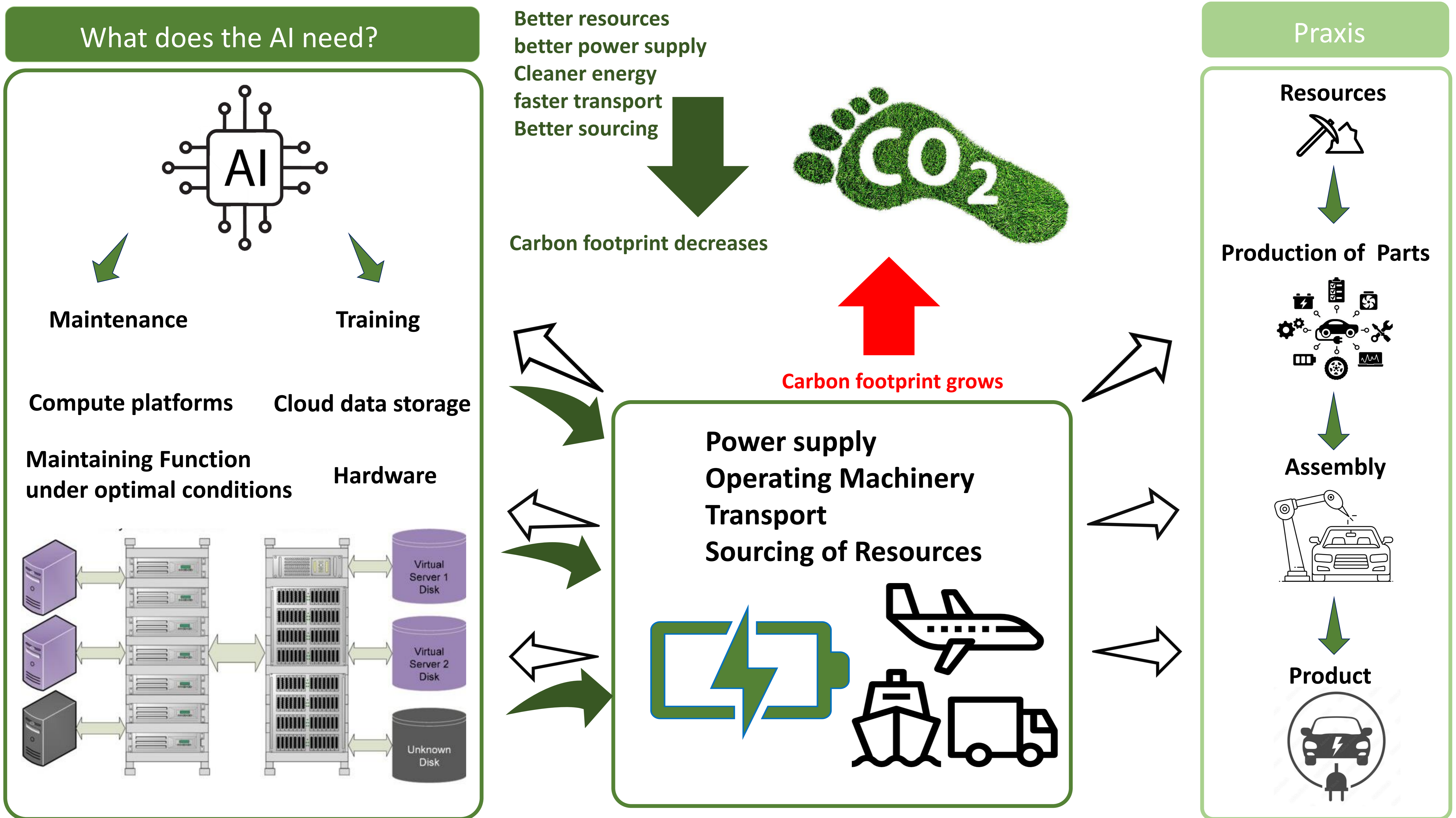
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The conflicting use of AI to reduce the carbon footprint

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Training and housing an AI is important, but currently not carbon efficient!

What does the AI need?

AI

Maintenance

Training

Compute platforms

Cloud data storage

Maintaining Function under optimal conditions

Hardware

Virtual Server 1 Disk

Virtual Server 2 Disk

Unknown Disk

Better resources
better power supply
Cleaner energy
faster transport
Better sourcing

Carbon footprint decreases

CO_2

Carbon footprint grows

Power supply
Operating Machinery
Transport
Sourcing of Resources

Praxis

Resources

Production of Parts

Assembly

Product

Training

Most resource intensive

120 Years

1287MWh

Efficient models: production requires more energy

Challenge

AI

CO_2

Computing Process

Application

Systematic Scale

Ideal

Balance:
- Energy costs
- Environmental impact
- System capabilities

CO2 Metrics

Metrics of model quality and performance

"You can't solve a problem if you can't measure it"

Location matters

Choose location with green energy

+30 Times CO2

VS.

Data Sets can be accessed everywhere

Hardware materials

Choose materials that emit less heat

Less energy for cooling

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