Sustainability-as-a-Service: A new IT hardware business model for the 21st century

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Performance + Reliability = Competitive Cost
Stuttering

- Transistors per chip, ‘000
- Clock speed (max), MHz
- Thermal design power*, w

Chip introduction dates, selected

Transistors bought per $, m

Log scale

- 10^7
- 10^5
- 10^3
- 10
- 10^-1

1970 75 80 85 90 95 2000 05 10 15

Sources: Intel; press reports; Bob Colwell; Linley Group; IB Consulting; The Economist

*Maximum safe power consumption

Source
Why haven’t upgrade cycles been prolonged as well?
From a linear to a circular economy

Linear economy
- Raw materials
- Production
- Use
- Non-recyclable waste

Reuse economy
- Raw materials
- Production
- Use
- Recycling
- Non-recyclable waste

Circular economy
- Raw materials
- Production
- Recycling
- Use

Source
• Repairability
• Firmware support
• Greater transparency
• New policy & regulation
OK, we need a circular economy – but how?
From threat to (lucrative) opportunity
Chip Shortage Supercharges Used Data Center Hardware Sales, Says ITRenew

Hyperscalers’ decommissioned gear flies off the shelves as soon as it’s available, according to the vendor.

Yevgeniy Sverdlik | May 25, 2021

Source
Our proposal:
IT Hardware-as-a-Service
IT Hardware-as-a-Service

1. Echoes other viable models
2. Beneficial to producers & customers
3. Creates new business opportunities
4. Significantly improves sustainability
Four key challenges

1. Commoditization of server hardware
2. Reshaping OEM balance sheets
3. Security & data ownership
4. Innovation & research incentives
Sustainability is good for business

A review of 100 studies crushes assumptions about conflict between profit and sustainability

Only two studies found negative effects on the bottom line from adopting sustainability practices

Source
The SDIA is the leading platform for driving sustainability in the digital sector – will you join us?

- **Visit our booth:** C14 in the Expo Hall
- **Read more:** https://bit.ly/OCP-SDIA
- **Roadmap:** https://sdialliance.org/roadmap
- **LinkedIn:** https://bit.ly/SDIA-LI
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