SpaceNet
Internet Business Produkte

SpaceNet
Turn-key datacenter

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About SpaceNet

- Founded in 1993
  - 96 emails per hour in all of Germany
  - Physical email dashboard with blinking lights
- Shaped part of the Internet as we know it today
  - Helped build what has become De-CIX, world‘s largest Internet Exchange
  - Founding member of DENIC, the .de registry
  - One of the first IPv6-enabled providers in Europe
  - Single-handedly stopped Germany‘s unconstitutional data rentention laws
- Long-term sustainabilty
  - Stock not traded publically
  - Founder is the CEO
  - Weathered all bubbles and bursts

About SpaceNet

- Full-service Internet provider
  - Connectivity
  - Co-location
  - Cloud services
  - Managed applications
  - ..even webdesign
- Three sites in Munich
  - Vertiv is building the fourth site
- Roughly 1200 customers

A few reference customers

By the way…

- 100% daughter of SpaceNet: SDC Datacenter
- 130 employees
- ~70% engineers
- Visited production sites
- Class 4

- Contrary to popular belief, we‘re based in Germany, not Isreal

Why did we start this project

- Obvious answer: growth
- Full control over production stack
  - From power & cooling up to multi-redundant services
- No modern data-center for edge technologies in Munich, Germany‘s strongest city in tech
- Market demand due to data security, espionage, and privacy
  - State actors are becoming more and more aggressive
    - PATRIOT act, FISA letters, etc apply to all US companies
  - Health data is incredibly precious
  - Family-run businesses need to preserve their legacy
  - Innovation-driven companies need to protect against competitors
  - This is a huge issue in Germany

Our project

- EN 50600, class 4
- Hyperscale design
- Green-field project
- Concrete stick-build
- Adiabatic indirect air-to-air cooling (EFC)
  - 100% DX backup
- First phase 500kW IT load
  - Phase scales up to 1.5MW
  - 2 * 500 m² per phase
- Total of five phases
- Operational in Q1 2019
- A few concepts which are not public yet

Design goals

- Industry-leading power efficiency
- Modular
  - Pay as you grow
  - Easier to adopt new technologies
- Low TCO
- Resilience and security in-depth
- Relatively low average power due to more traditional co-lo customers
- Using these as first principles helped streamlining the project

Buzzwords of our times

- One of those buzzwords: „modular“
- Everyone is currently pushing modular designs
  - But it‘s not just about speed of execution
  - We need to maintain the site as well
- Together with Vertiv, we can adapt
  - Size of modules
  - Different cooling technologies
  - Access-control (DC-in-a-DC)
  - Mapping of which power modules deliver to which IT modules
    - There's an obvious tie between power & cooling

What options did we look at

- Everything
- We looked at every option and talked to (almost?) every player in the relevant fields
  - Build-it-yourself
  - Contract planning agency
  - Turn-key datacenter
  - Datacenter-as-a-service
    - Exclusive use
    - Multi-tenant

Considerations: build-it-yourself

- Pro
  - Deepest possible control
  - Direct contracts ensure good control over contractors
  - Full cost visibility and hopefully control
- Con
  - Largest risk
  - Need to contract lots of expertise

Considerations: Planning agency

- Pro
  - One-stop-shop for external expertise
  - Less risk
  - Direct contracts ensure good control over contractors
  - Full cost visibility and hopefully control
- Con
  - One more party to sync with
  - Indirect access to planning

Considerations: Turn-key

- Pro
  - One central point of cont[r]act
  - One-stop-shop for external expertise
- Con
  - Even less direct access to planning
  - Loss of price visibility

Considerations: DC-as-a-service

- Pro
  - One central point of cont[r]act
  - One-stop-shop for external expertise
- Con
  - Least access to planning
  - Loss of price visibility
  - When has leasing anything you use often ever been cheaper than buying outright?
  - Special case of multi-tenant:
    - De-facto loss of any planning access
    - Loss of value-add

Sweet spot

- Best trade-off between all considerations: turn-key
- It‘s the first time we did this
- Vertiv is also doing this at this depth for the first time
  - Even responsible for groundworks, streets, everything
- We see this as a growing trend in the future

Caveat: Vertiv is special

- Vertiv‘s advantage:
  - They are their own supplier for almost everything
  - ..so they have extremely good control over the full DC
- Vertiv‘s liabilty:
  - They are their own supplier for almost everything
  - ..so they won't easily suggest other market players for components
- From the customer‘s PoV, this is important
  - We have to rely on Vertiv always maintaining their leading position

Our path; sales phase

- During sales phase, we all focused on technology
  - Rough budget numbers so we knew we were not completely out of bounds
- We got high quality input, but challenged again and again
- The over-arching concept remained the same, but we changed a lot
- Our longest in-person meeting took 18 hours, our longest telco took 11.5 hours
  - and those were still productive and friendly
- This builds trust

Using this trust

- Shortly before signing, we hit a major roadblock
- Issues around the gensets forced us to face a six-figure price increase; per phase
  - This made a lot of people nervous
    - ..but Vertiv assured us that they would compensate for those issues
    - ..which, in turn, motivated us to work with them to lessen certain requirements
    - ..we managed to work around this problem completely, while maintaining availability
  - Text-book win-win; and it would not have happened without a baseline of trust

Our path; engineering phase

- Vertiv employs a larger-than-average amount of intelligent and specialized people
- Projects of this scale always cause lots of issues
- Sometimes, Vertiv feels like a beehive
  - To a complete stranger, it looks like utter chaos
  - ..but intelligent and skilled people who agree on the Big Picture align automatically
  - ..and the results are always on point
- Vertiv engineers know they can rely on me to support wherever I can
- Again, this builds common trust

Using this trust

- Reminder: we are doing indirect air-to-air cooling
  - ..so we need to move lots of air at a slow speed to be cost-effective
  - ..which means huge air ducts
- We realized that beams and underconstruction were in the way of some air ducts
- We challenged Vertiv on this issue
  - Vertiv changed the structure and statics of our building
- This goes beyond what other companies would be willing to do

Would we choose Vertiv again?

- I wouldn't be standing here if I would be about to say no
  - ..and you wouldn't be here if you didn't expect me to say yes
- I am not an easy customers and hard to please
  - I convinced myself that we chose the best of the best
  - Vertiv still outpaces my expectations
- So: Yes

What would we do differently?

- Overall, we are very happy with our path up to now
- If we made one mistake, it was not to cull obviously non-fitting offers more aggressively
- Turning this into a positive statement:
  - Early and high-quality engagement with potential customers is key

Take-aways

Intentions

Take-aways

Trust

Take-aways

Partnership