
Back to the Future



René Ejury
Technology, Governance and Citizenship
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about: me

free IT Consultant and Free Software Developer, Germany

worked as Communication Officer on a Cruise-Ship

knowledge in software development, computer engineering
and social sciences

specialized on

- Free Software / Wireless Mesh Community Networks
- Navigational / Ship-based IT-solutions

interested in

- adaptation of IT solutions to existing scenarios
- role of Free Software for bridging the digital divide
- privacy issues and social responsible IT usage

Today's Menu

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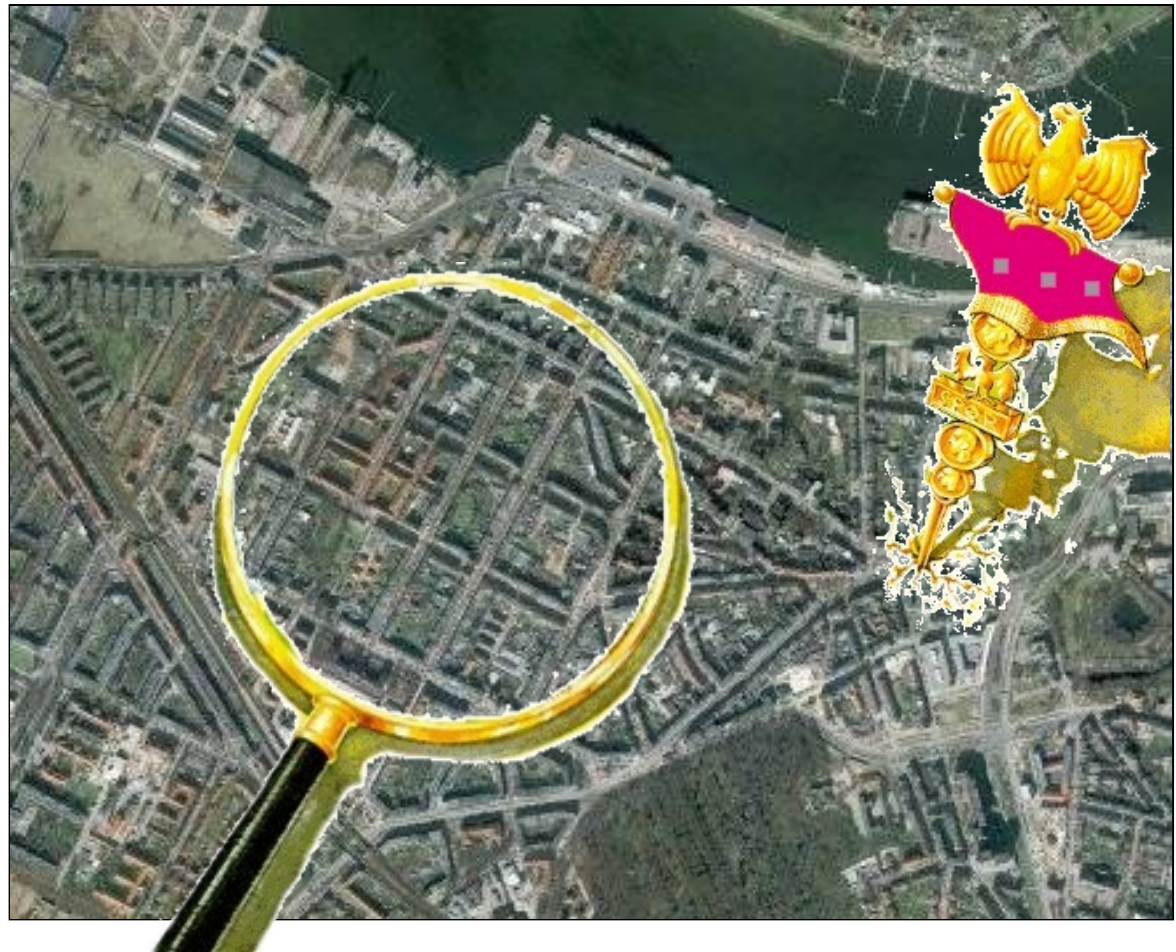
Opennet as a Community-driven IT project

Rostock (200.000 people's town) 2004

High-Speed Internet
(DSL) available.

everywhere ?

No!
OPAL in one area.
(optical fiber connection)



img-source opennet e.V.

OpenNet

First idea of the OpenNet

2004 requests to the University of Rostock to supply Internet not only to their members, also to other people in the area

17th June 2004: first OpenNet Community Meeting, over 20 people.

OpenNet – a free self-made communication network.

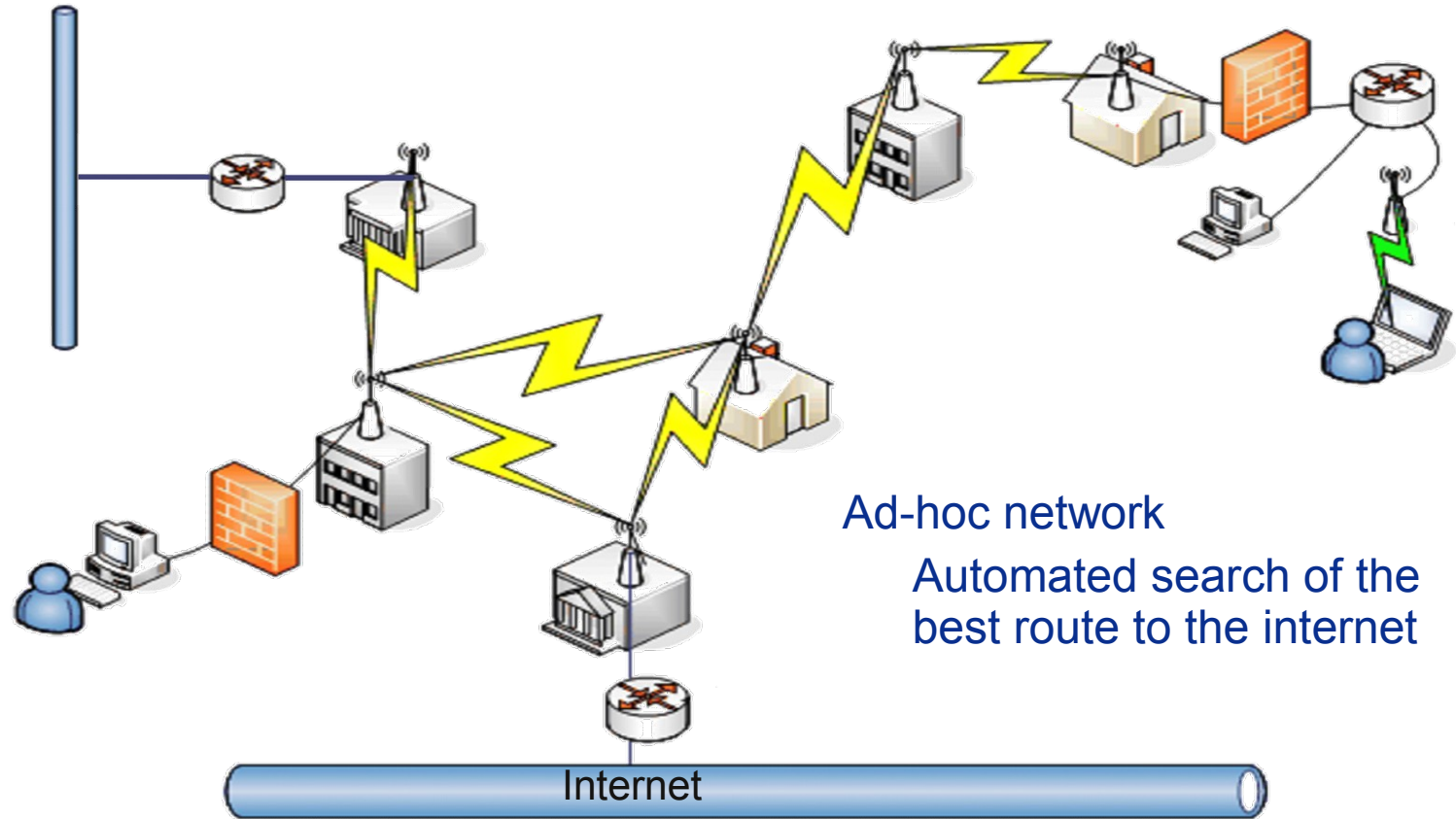
Beginning of 2005 foundation of „Opennet Initiative“

Goal of association:

support of free and open communication infrastructure

real goal: get Internet (cheap and fast)

The Network



Ad-hoc network
Automated search of the
best route to the internet

AccessPoints

usual consumer WLAN-Router
(11MBit/s – 54MBit/s)

Linux-based, Firmware
replaceable and expandable

Access-Points are owned by the
Network Members, so they
are own their network



software-development

Opennet started to develop an own firmare

Traffic encrypted with OpenVPN

Additional software-developments



The screenshot shows the website for 'opennet.firmware'. It features a navigation menu with 'Home | Kontakt', 'Inhalt', 'Status', and 'Verwalten'. The main content area has a 'Hallo!' greeting and a message about the 'Opennet-Firmware Version 0.10b' and a 'snow crash' issue. It includes a 'Hinweis' section about the software's basis on OpenWRT and a 'weitere Informationen:' section with links to 'Opennet-Firmware-Seite', 'Netzstatus', and 'Störungen'. The Opennet Initiative logo is prominently displayed in the center.

VPN-Status izumi.on

Index: [Aktuelle Verbindungen](#) · [Installierte Zertifikate](#) · [Legende](#)

Aktuelle Verbindungen

Clients: 21, Mittl.: 31.0 KB/sec, Akt.: 26.3 KB/sec, Zuletzt aktualisiert: Sun Mar 19 16:01:16 2006
 Uptime: DSL-Verbindung 17:44:42, VPN-Server 37 days, 20:39:19

Name	Quelle	TX	RX	Verbunden seit	Mittl. Rate	Akt. Rate	(TX/RX)
UNDEF	192.168.1.41:1194	0.0 MB	0.0 MB	0:01:01	0.1 KB/sec	0.0 KB/sec	0.0 / 0.0
20.aps.on	192.168.1.20:2049	77.9 MB	1318.4 MB	21:39:14	18.3 KB/sec	22.8 KB/sec	0.9 / 21.9
27.aps.on	192.168.2.27:2049	27.9 MB	169.0 MB	2 Tage, 2:38:41	1.1 KB/sec	0.1 KB/sec	0.0 / 0.0
34.aps.on	192.168.1.34:2049	27.0 MB	171.4 MB	2 Tage, 2:30:15	1.1 KB/sec	0.0 KB/sec	0.0 / 0.0
35.aps.on	192.168.1.35:2049	365.8 MB	206.6 MB	2 Tage, 2:30:20	3.2 KB/sec	0.0 KB/sec	0.0 / 0.0
40.aps.on	192.168.1.40:2050	12.5 MB	52.0 MB	2 Tage, 2:34:47	0.4 KB/sec	1.6 KB/sec	0.2 / 1.4
57.aps.on	192.168.1.57:2049	0.1 MB	0.2 MB	4:51:15	0.0 KB/sec	0.0 KB/sec	0.0 / 0.0
61.aps.on	192.168.1.61:2052	2.2 MB	6.7 MB	2 Tage, 2:14:13	0.1 KB/sec	0.0 KB/sec	0.0 / 0.0
62.aps.on	192.168.1.62:2049	5.0 MB	23.6 MB	5:17:15	1.5 KB/sec	1.6 KB/sec	0.5 / 1.2
64.aps.on	192.168.1.64:2051	3.0 MB	17.7 MB	13:23:48	0.4 KB/sec	0.0 KB/sec	0.0 / 0.0
65.aps.on	192.168.1.65:2049	43.5 MB	517.6 MB	2 Tage, 2:30:23	3.2 KB/sec	0.0 KB/sec	0.0 / 0.0
72.aps.on	192.168.1.72:2048	0.6 MB	1.6 MB	10:22:05	0.1 KB/sec	0.0 KB/sec	0.0 / 0.0
85.aps.on	192.168.1.85:2050	3.7 MB	22.0 MB	14:05:51	0.5 KB/sec	0.0 KB/sec	0.0 / 0.0
91.aps.on	192.168.1.91:2049	1.1 MB	1.3 MB	2 Tage, 2:30:21	0.0 KB/sec	0.0 KB/sec	0.0 / 0.0

Antennas

“A good antenna is the best amplifier”

Creative self-made antennas

Professional antenna-tests in cooperation with the university

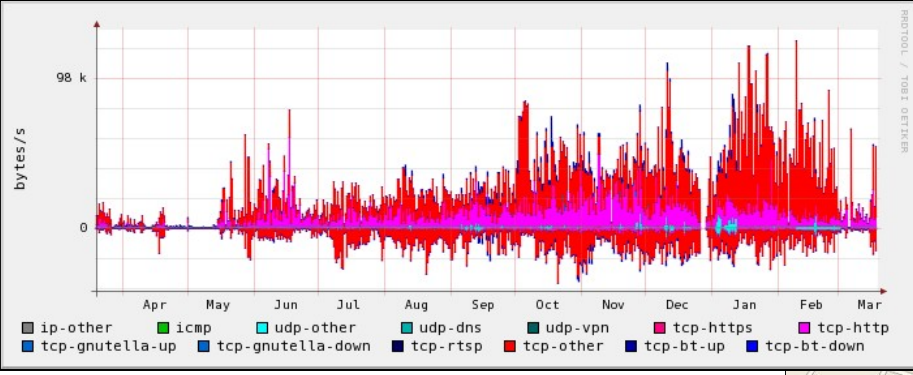
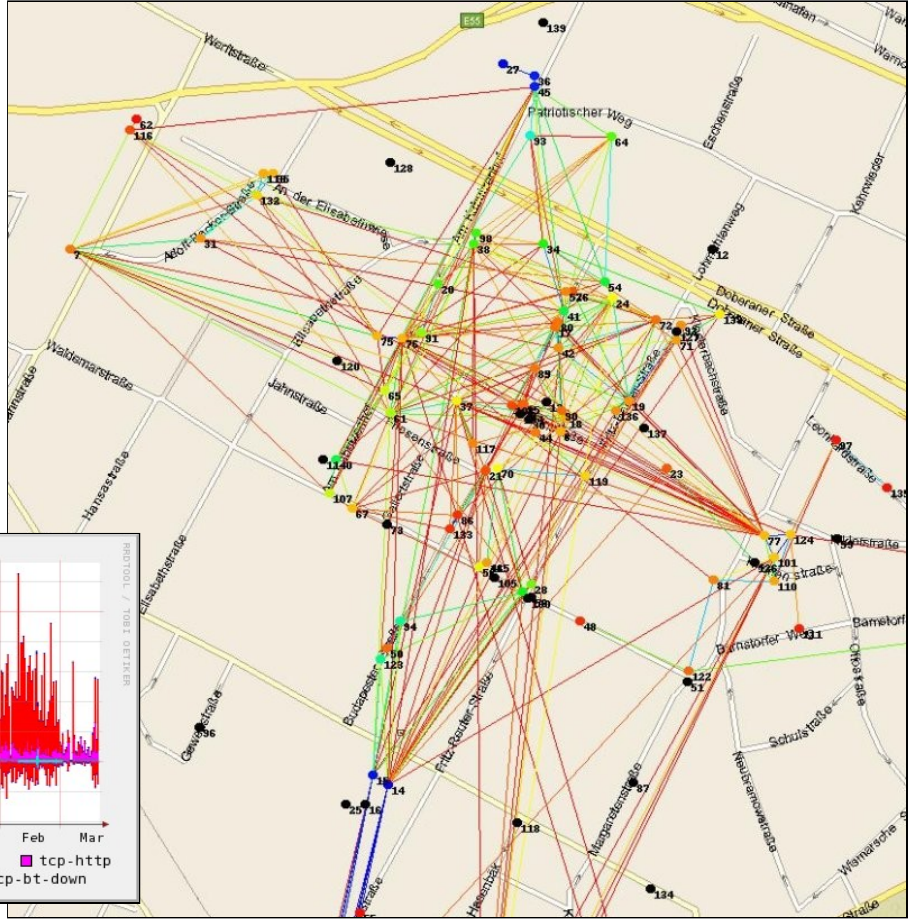


img-source opennet e.V.

initial development

members:

- Jan 2005: 25
- July 2005: 50
- Jan 2006: nearly 100
- Summer 2007: 125
- (2010: ~150)

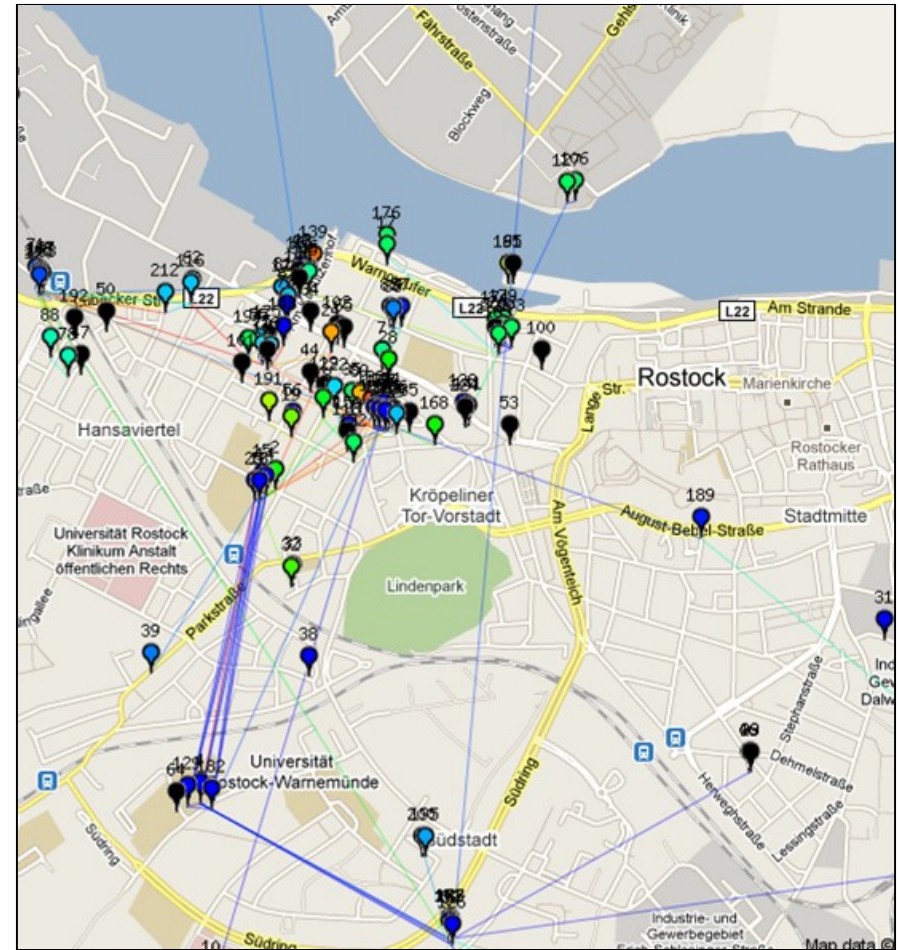


Opennet changed in the last years

Idea moved from town to villages

Inner-city:

- high-speed DSL available, low speed-WIFI not acceptable
- dedicated connections for different spots
- free network in harbor area
- no current ongoing development – not required (initiative is not active)

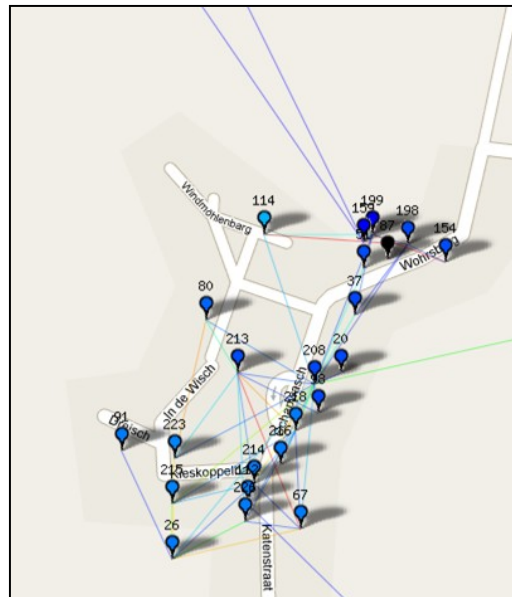


Opennet changed in the last years

... in county Mecklenburg in many villages have no Internet

Villages

- No high-speed DSL available, Internet brought there by WIFI
- local ad-hoc networks
- ongoing development required (crowded village meetings)



img-source opennet e.V.

Community driven Project

generalized:

- Projects are practically market-driven
 - development might solve all issues in short time
- Project activity might arise and fall based on needs of the market
- a Community Project will get stuck once goal is reached
 - which is not really a worse thing, because needs are targeted
- Goal can be changed if required to keep Project active

Profit-driven IT projects

Profit-Driven projects

- Single product only one part of the profit-generating process
- Relation between customer and supplier is another part
 - most valuable part of the process
 - Commercials try to generate Relation
 - Relation is finally created when you buy a product
- Important: keep this relation stable
 - additional features are offered
 - nicely looking online-support service
 - mails which inform you about new products etc.



img-source <http://www.econoshock.be>

Profit-Driven projects

- Software solutions are usually buggy. The development-cycle is stopped, if product is ready for the market (pressure to be as fast as possible)
- Probably not intentionally – but bugs are strengthen the relation between costumer and producer
 - bugs have to be fixed, with updates, upgrades or replacements
 - communication between costumer and provider is generated
- Therefore: it's good to have a (slightly) buggy software...

Profit-Driven Projects

- Goal is not to be market-driven, than to drive the market
- making product “better and better”, create new requirements
 - mainly by adding new features
 - by slightly removing obvious bugs
- if you are ready with your solution, if your solution is perfect, you will loose your costumer
 - usually costumer won’t check your website
 - If costumer is satisfied, will spend money for something different

There is no real interest in creating a perfectly working product!

Back to the Future

(including parts of TGC 2007 presentation)

Trust

“Trust is one of the most important and essential features of the modern world. Without it, most human activities - from interpersonal relationships and mailing letters to boarding aircraft and taking medicines-would grind to a halt like machines drained of oil. Many institutions, from science to religion, have been shaken recently by controversies involving trust. Yet trust is difficult to examine in a comprehensive and systematic way.”

Trust Institute at Stony Brook University,
<http://www.stonybrook.edu/trust/>



Lucas Cranach, Adam and Eve, 1526
img-source <http://www.courtauld.ac.uk>

Trust

Trust is

- a mechanism to reduce social complexity (Luhmann)
- required if rational reasoning is not possible
- **enables reasoning by intuition**

Trust is

- **belief** in honesty, benevolence and competence
- no external measurement possible

Trust is

- hard to claim and **easy to loose**
- if competence was the reason to loose the trust, its easiest to recover



img-source <http://www.h4x3d.com>

Why we trust IT?

they often **don't do what we expect** them to do

shouldn't we stop trusting the people who create those things?

- at problems they mostly clame the reason was
 - between your desk and your chair
 - cause of conflicting/malicious third-party software
 - last, a problem on their side they didn't knew about before, sorry
- we believe that, cause we are incompetent ourselves

it's easy for 'them' to gain our trust again, cause it was lost based on their missing competence (so they say)

- we have **often no choice** to not use 'their' solutions, so it's better if we trust them (also if we know better, we just ignore the reality)



Real-World experience

responsible for

all IT &
Communication
Technology

on a 2.500
people cruising
ship

an example for a
complex IT-
system, not
specific for
ships / this ship



fixing the system...

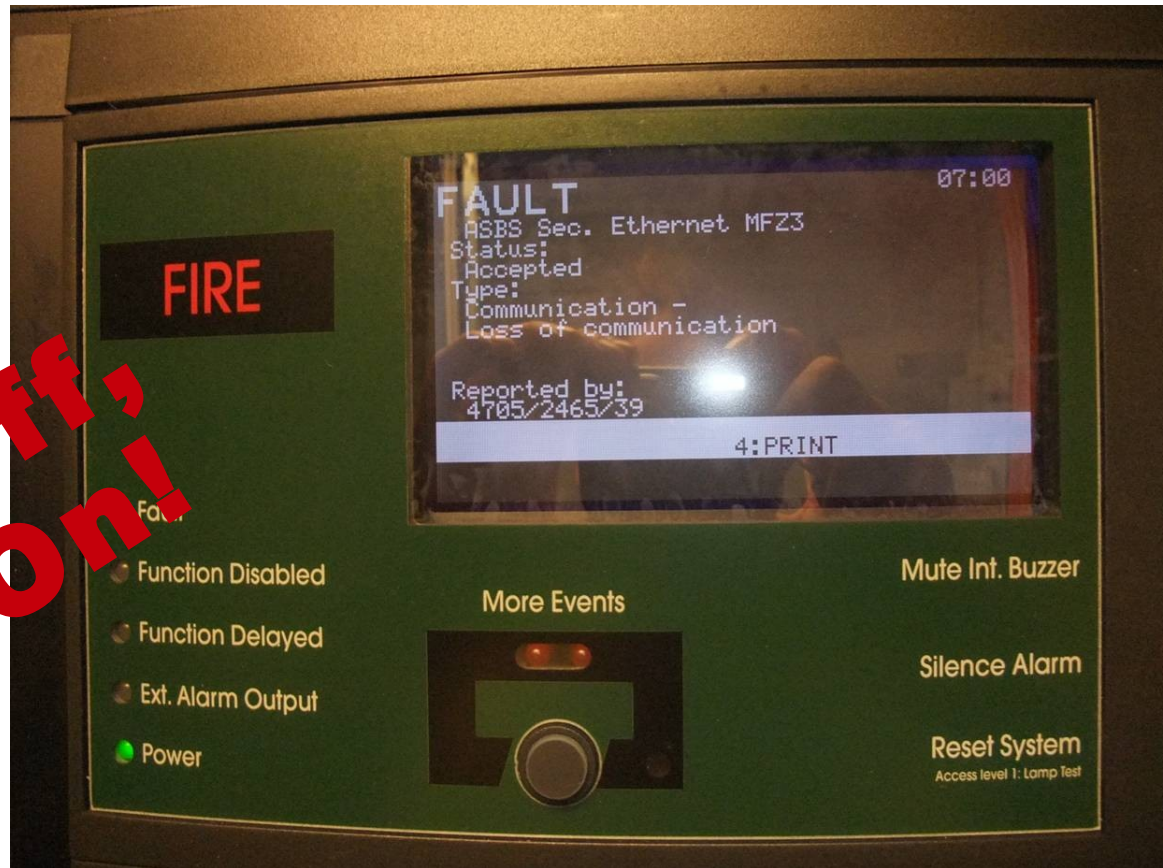
Public Call System



**Power Off,
Power On!**

fixing the system...

Fire Detection System



**Power Off,
Power On!**

fixing the system...

Global Positioning System

**Power Off,
Power On!**

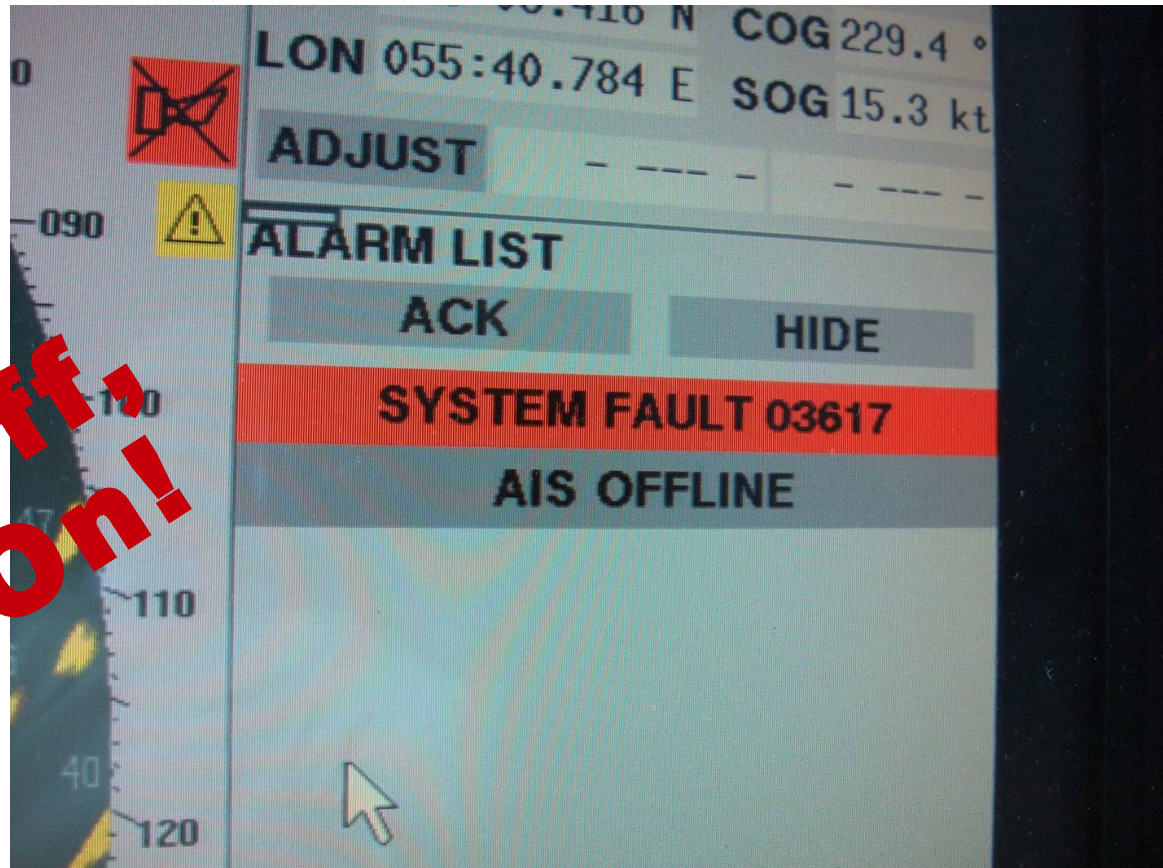


didn't worked, software-update was required... :)

img-source R. Ejury

fixing the system...

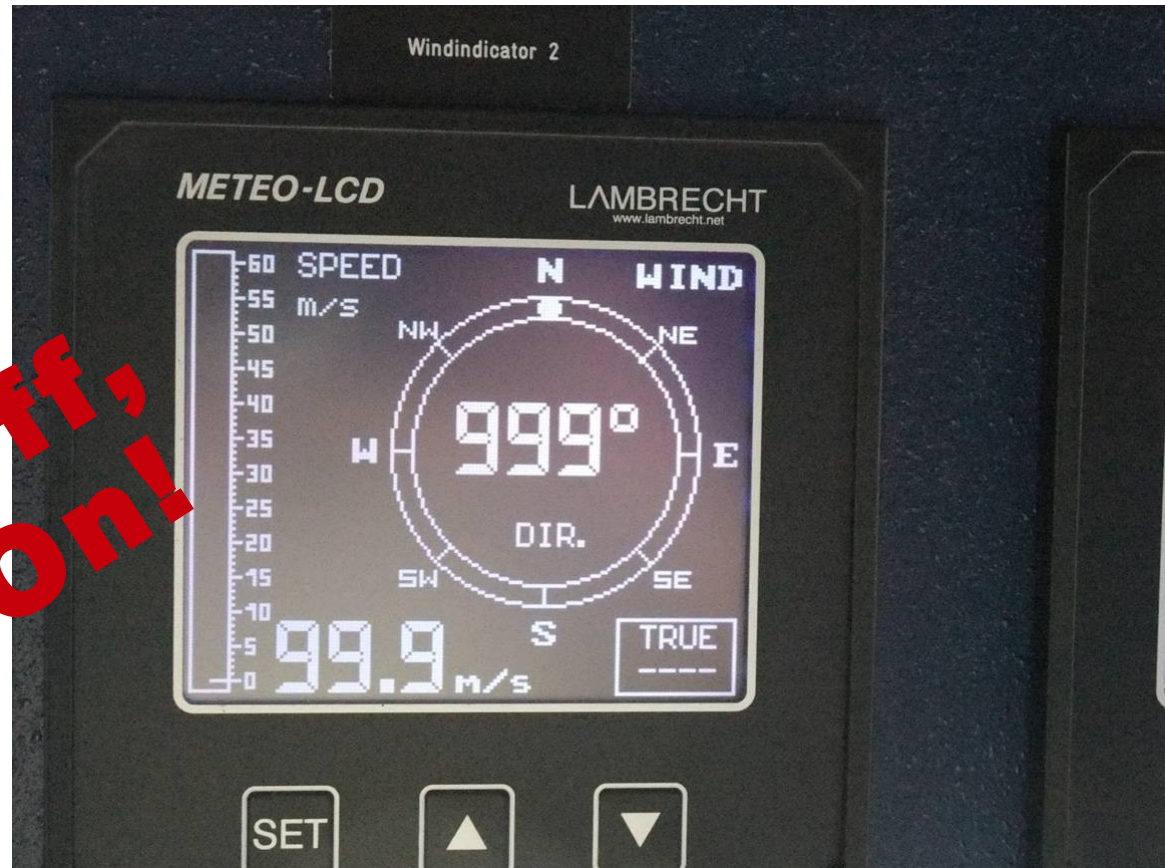
Radar &
Navigation
System



Power Off!
Power On!

fixing the system...

Meteorological
Sensor
System



**Power Off,
Power On!**

How do we recreate Trust

“Have you tried turning it off and on again?”

(by imagining the good old times when the solution worked well we will forget all our problems)

(if a solution never worked before, trust can't be created by restarting)

Reboot our social systems

- we got used not to fix IT problems, but to reboot.
 - that's like changing the time, going back in time
- the more IT influences our society, the more we get used to restart systems in our society to fix our problems.
- because we changed the way we recreate trust, we get used to apply this procedure to different settings.

(we restart the financial market by printing the money to save the banks after the crash.)

Conclusion

- Profit-oriented IT industry has no real interest to solve problems with IT-solutions
- If we start to accept reboots as a way to recreate Trust, we risk some base concept of our society (if it's not to late)
- We should fight our acceptance of reboots as a way to recreate Trust.
 - in IT-solutions as well as
 - in all social systems.

every reboot is a step

Back into our Future

Thank you !

René Ejury

email: contact@absorb.it

www: <http://www.absorb.it>

<http://pgpkeys.pca.dfn.de/pks/lookup?op=get&search=0x8D3C2E166B2CF581>
key fingerprint: D52E A1C3 7982 B5F4 09CA 68DE 8D3C 2E16 6B2C F581