Governing SDI maintenance for map production

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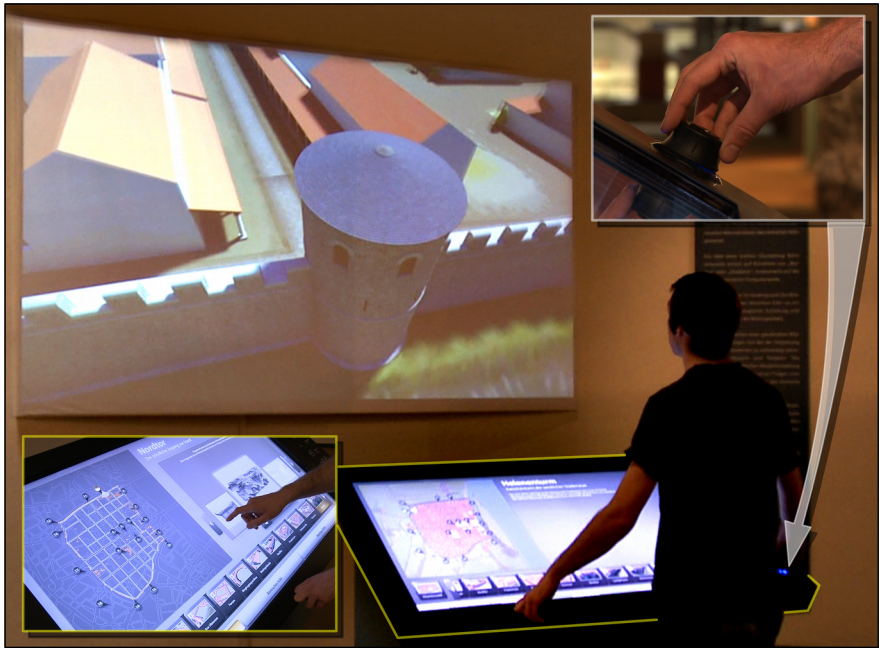
GWF 2015, Lisbon

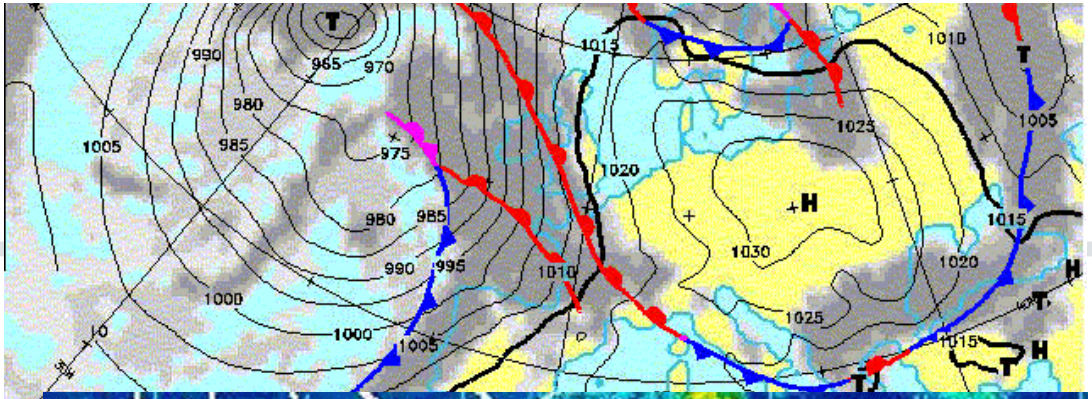
Outline

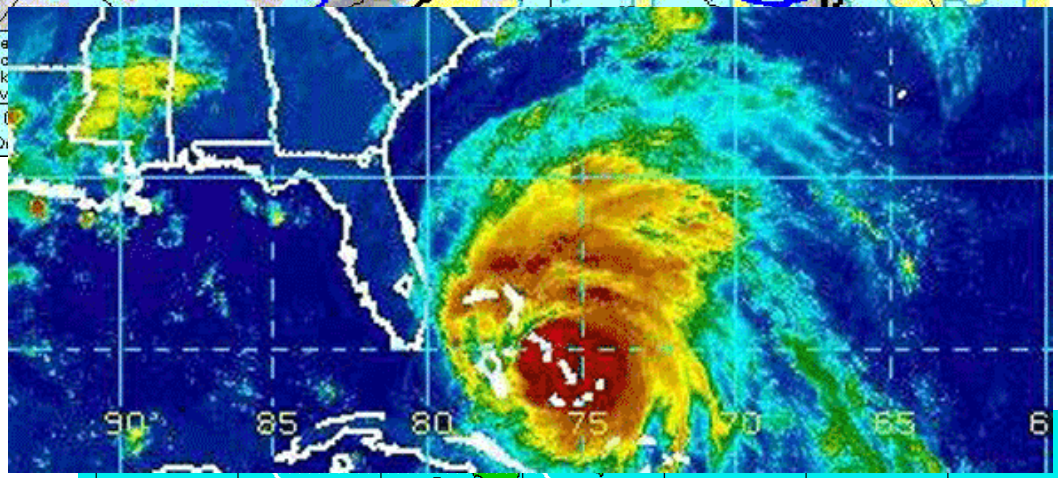
- Introduction (AAA, SOMAP, Map Production)
- SOA characteristics
- Methodology supporting governance
- Proof of concept
- Conclusion

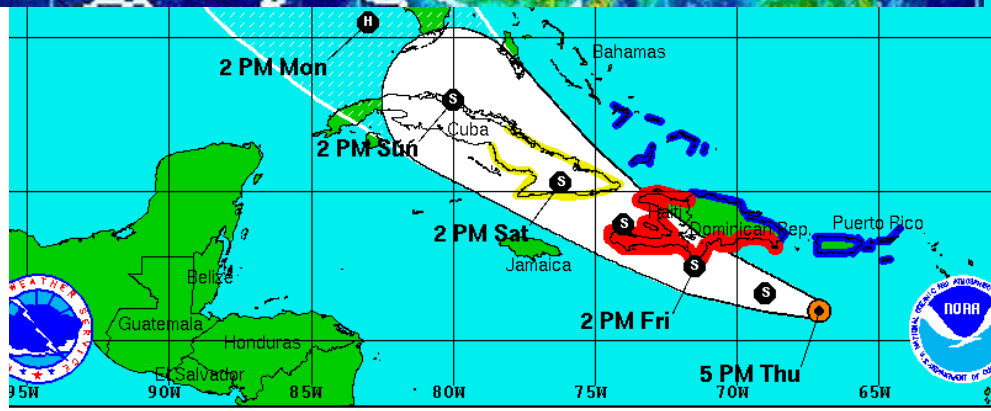
Maps - UI, Devices, Gadgets



[2014] Google GLASS







ical Storm Isaac
day August 23, 2012
DT Advisory 11
National Hurricane Center

Current Information:
Center Location 16.0 N 67.1 W
Max Sustained Wind 40 mph
Movement WNW at 16 mph

Forecast Positions:
Tropical Cyclone Post-Tropic
Sustained Winds: D < 39 mph
S 39-73 mph H 74-110 mph M > 11

ntial Track Area:
Day 1-3 Day 4-5

Watches:
Hurricane Trop.Storm

Warnings:
Hurricane Trop.Storm

Three pillars of modern map production

[2014] Google GLASS

Acceptance

Availability

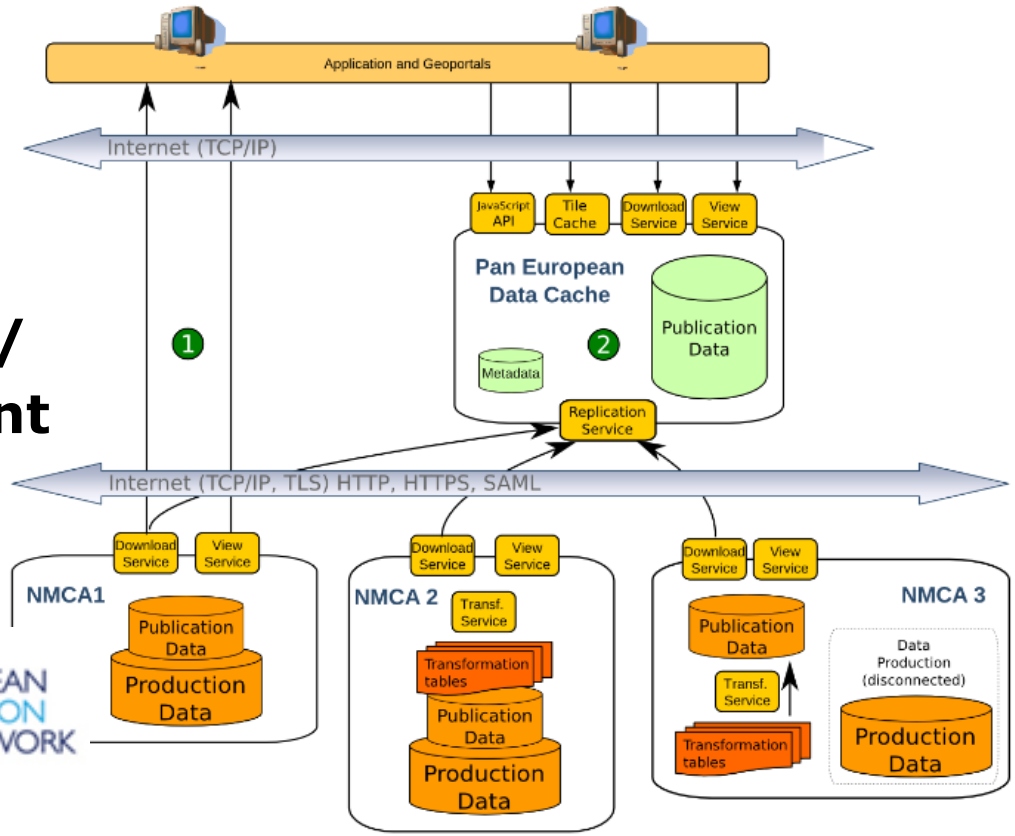
Accessibility

Service-Oriented Architecture (SOA)?

Overcoming geospatial obstacles within the SOA approach

- Supranational (apriori) homogenisation of geospatial information preparation
- Defining/preparing concrete use cases of visualization,
  reports or
  even adaptive maps

  = **product definition/ product development**



ELF EUROPEAN LOCATION FRAMEWORK

GWF *Figure 12 The E.L.F Technical Architecture*

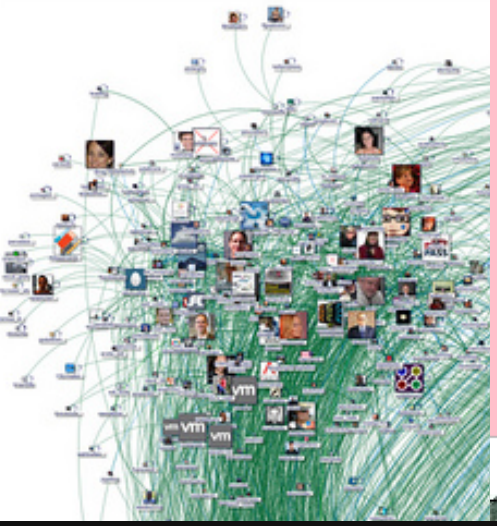
Quality with SOA/GDI
Additional quality considerations/requirements

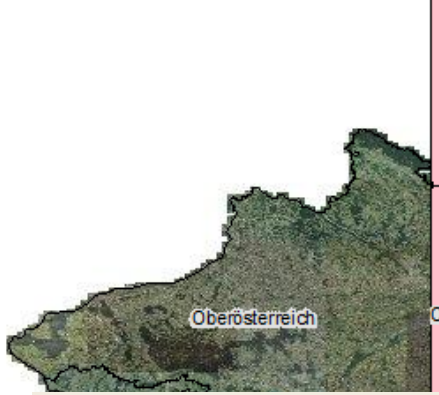
- Infrastructure quality
  - **Performance and consistency** of search- and result delivery
  - Performance and **capacity** of services and data access
  - Standard **conformity**
  - Safety and **reliance**
  - Availability
- „**Freedom** for use cases“
  - Support of **serendipity effects**: generating added values by „free“ orchestration of data and services

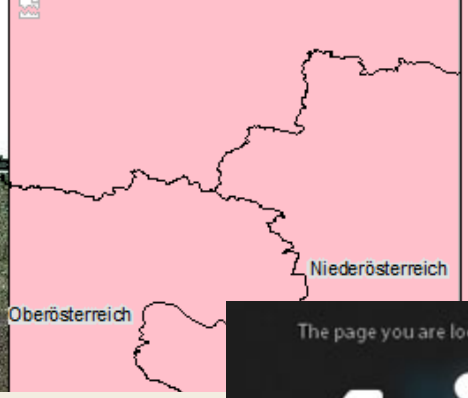
[2014] www.ethiopianreview.com

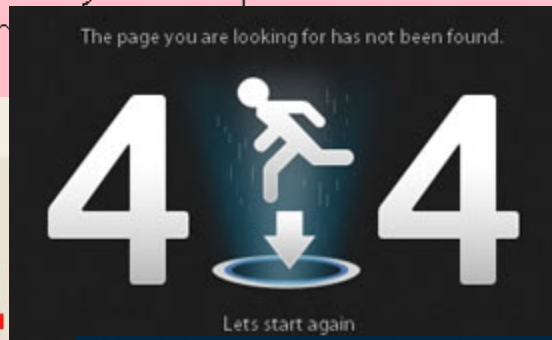
SOA approach

- **Dependency: a SOA behaviour**
  - **unconsidered** system component dependencies
    (impact on planning and implementation)
  - **missing**/not working system components
    (e.g. based on architecture variations; load balancing; ..)
  - system **failures**
  - maintenance **downtime**
  - ...

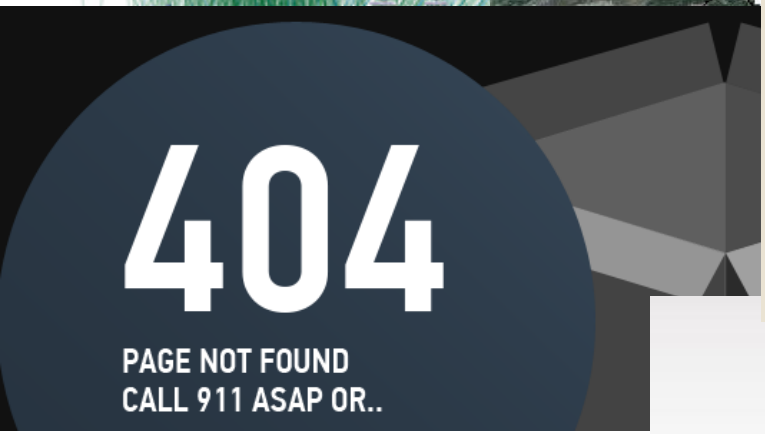



Oberösterreich

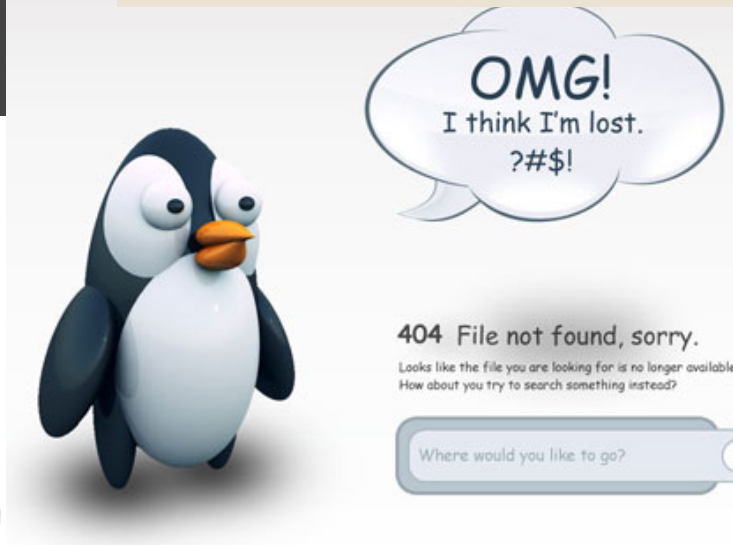

Niederösterreich
Oberösterreich


The page you are looking for has not been found.
4 4
Lets start again

Whoops! Page not found.
404
Mistakes are the portals o
discovery. But we'd rather
you use our homepage.


404
PAGE NOT FOUND
CALL 911 ASAP OR..

404 ERROR
*** GIRLFRIEND NOT FOUND ***


OMG!
I think I'm lost.
?#$!
404 File not found, sorry.
Looks like the file you are looking for is no longer available.
How about you try to search something instead?
Where would you like to go?

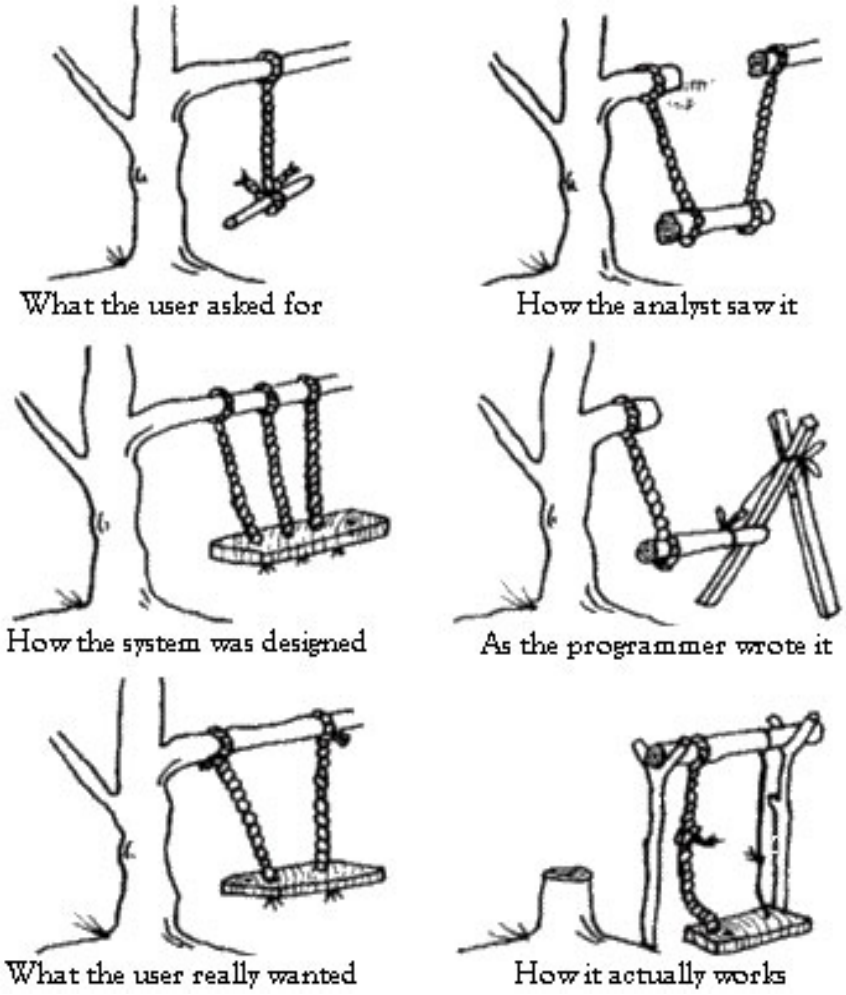
Ooops, looks like a ghost!
The page you are looking for can't be found. Go home by clicking here!

404 not found

Methodology for the governance of geospatial infrastructure maintenance?

Requirements Engineering
Identification of Requirements

- Elicitation: **Consultation**, review and context normalization
- Analysis: **understanding** of a desired system/component/ procedure
- Specification: **structured documentation** of a desired system/component/procedure
- Validation: **identification** of omitted, redundant and inconsistent requirements



http://courses.utep.edu/Portals/1335/Images/seTree.jpg

Change Management

Coordinate changes, plan success, enhance communication and implement requirements

- **Develop** vision and strategy
- **Communicate** change vision
- **Generate** short-term wins
- **Consolidate** and build on gains
- …**short continuous successful steps**

http://navis.com

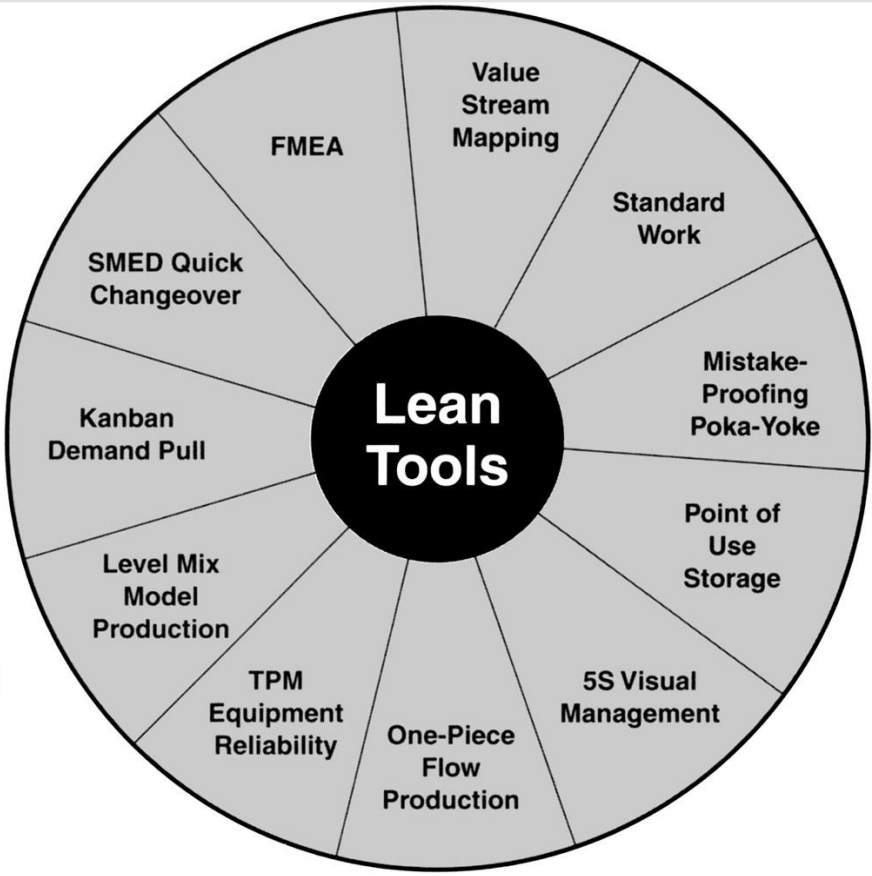
Image courtesy of Cheryl Duvall, http://workdesign.com

Process Management
Enhancing processes and outcome

- Development of **map production automating**
- **Process networks** of geoinformation- and map production
- Consideration/implementation of more efficient concepts of **ongoing change management** within the SDI
- **Education**: ongoing recreation of trainings and open accessibility

Lean Management
Enhancing procedures and dependencies

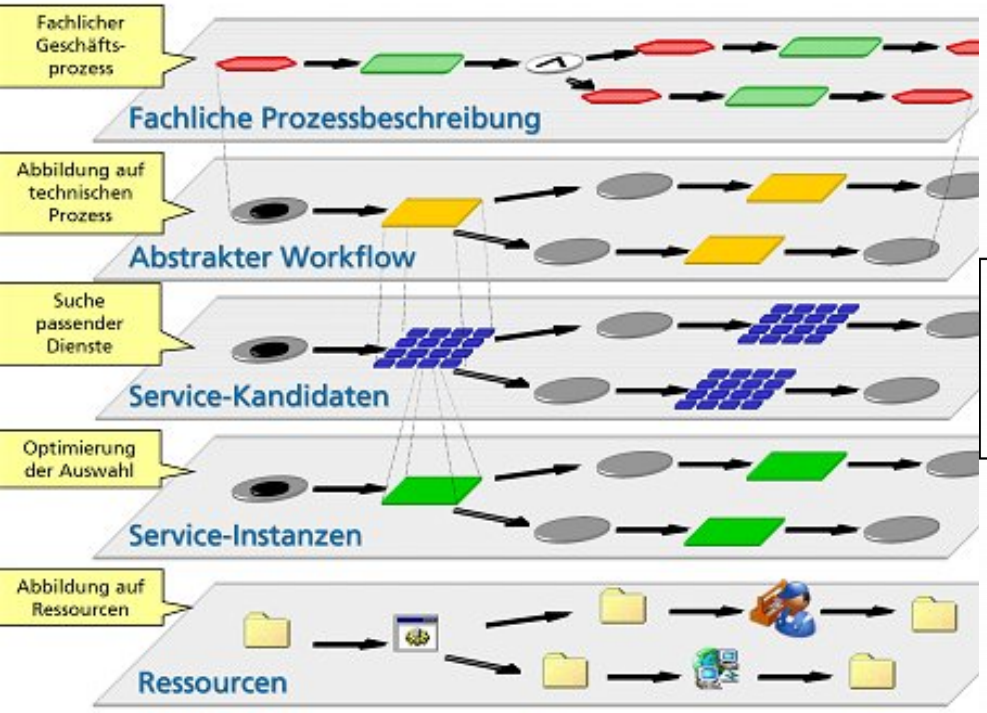
- **Elimination** of „waste“
- **Improve** the flow of information and material
- Distinguish **needed items** from uneeded (and elimitate them)
- Overall Equipment **Effectiveness**
- **Measure** the right things and make results visible
- Realizing value in a **multisourced** environment
- Leveraging business and technical **skills** along with sourced partners

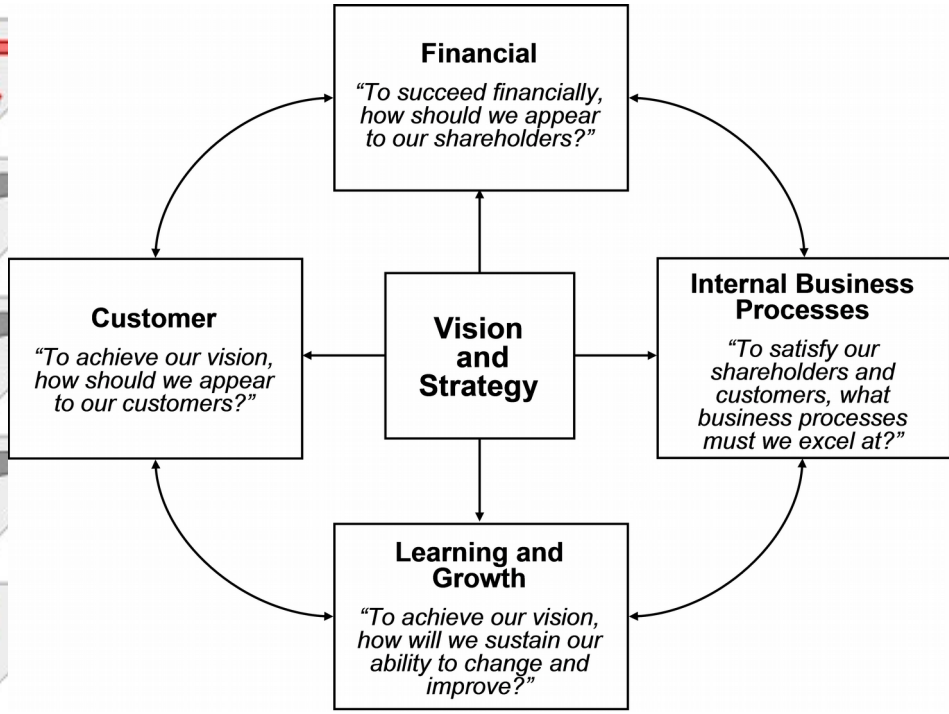


http://www.bexcellence.org

Evaluating an impact
Pragmatic dimension of governance

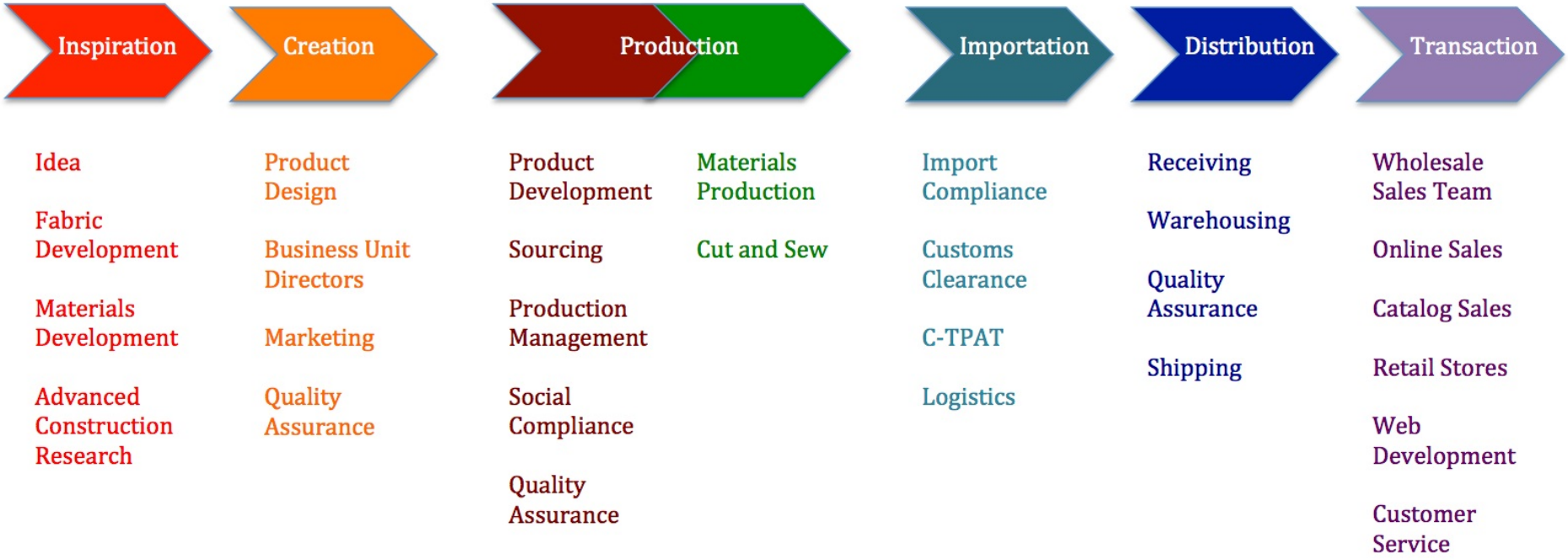
- Measureability of **system dependencies** (product states, revision cycles, license-, version-, software- and format dependencies)
- Measureability of **dependencies of use** (dependencies of applications and their usage)





Visualization

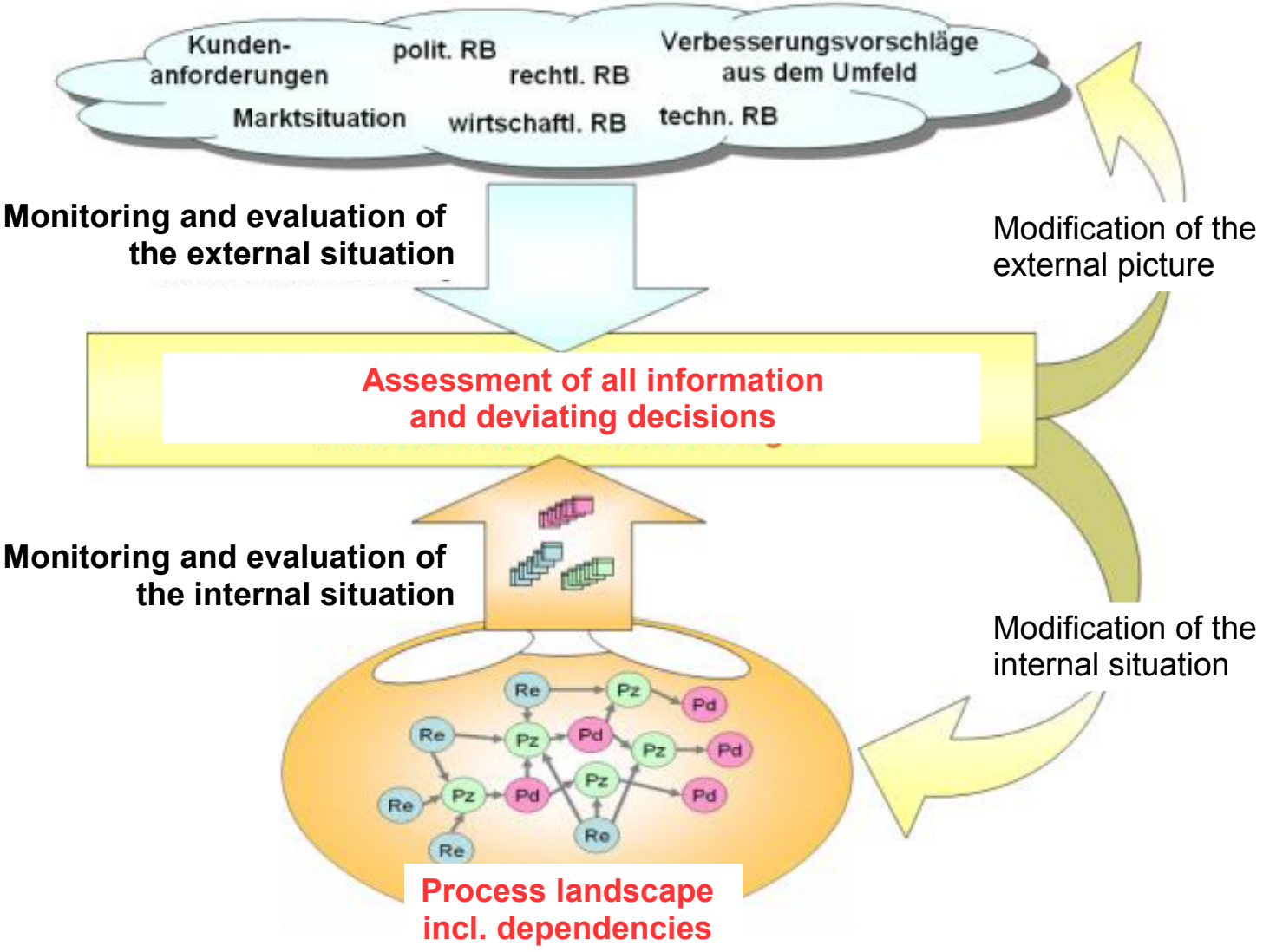
- Visualization and „**decision cockpit**" for process and dependency governance



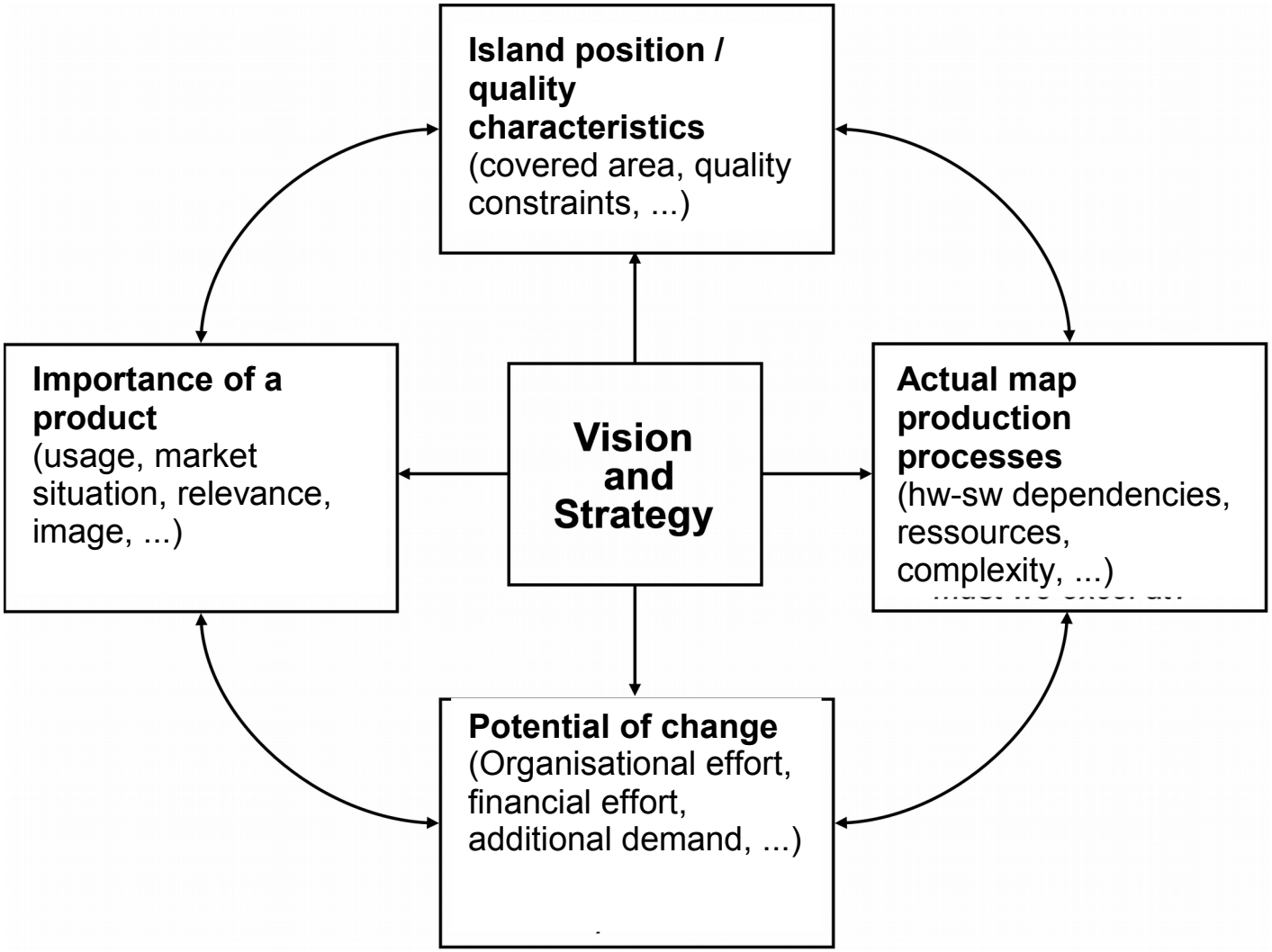
Management tools

only theory?

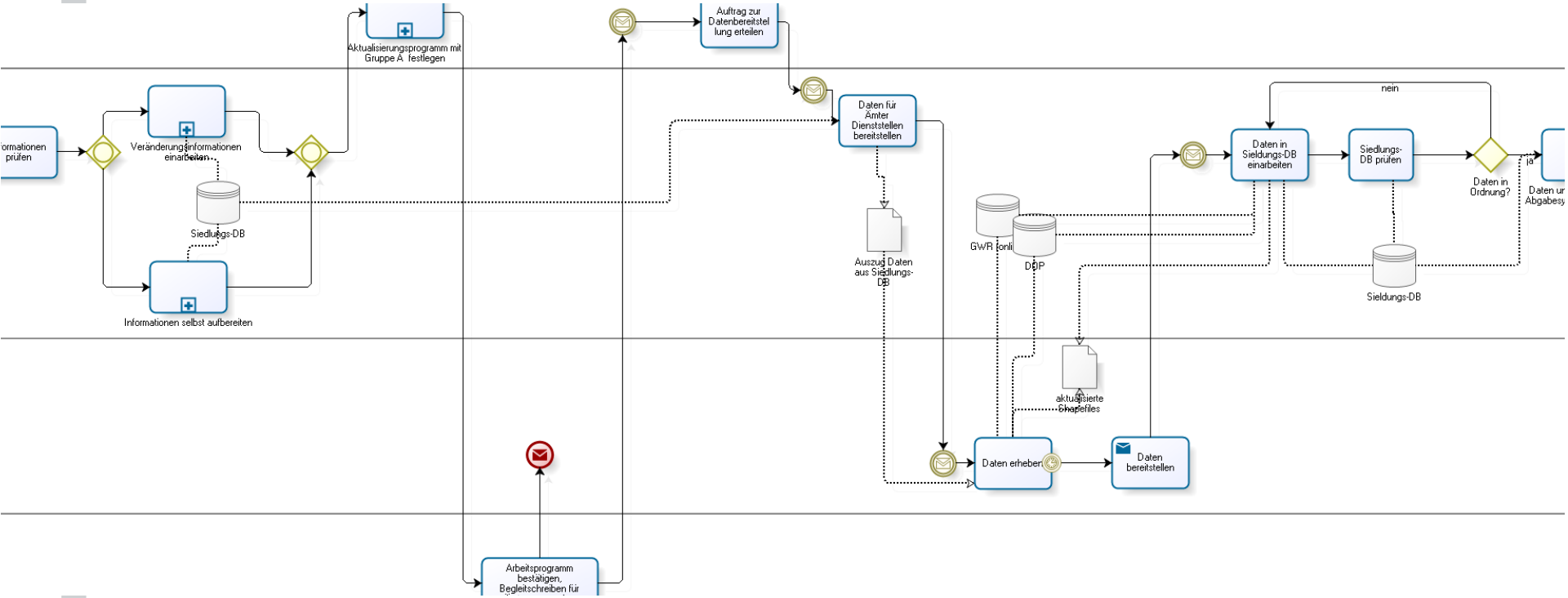
Management tools
Proof of concept: NMCA production scenery analysis



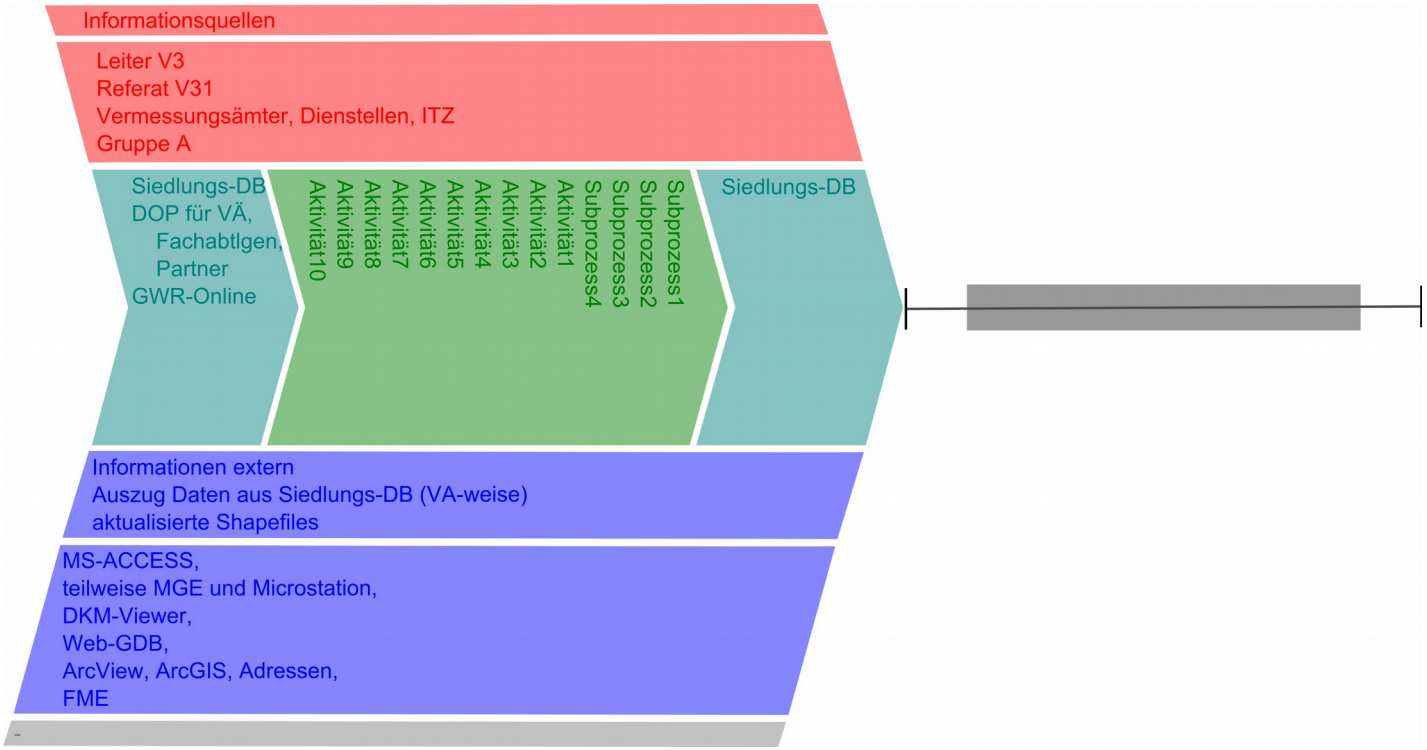
Management tools
Measurement: a balanced geo-product scorecard



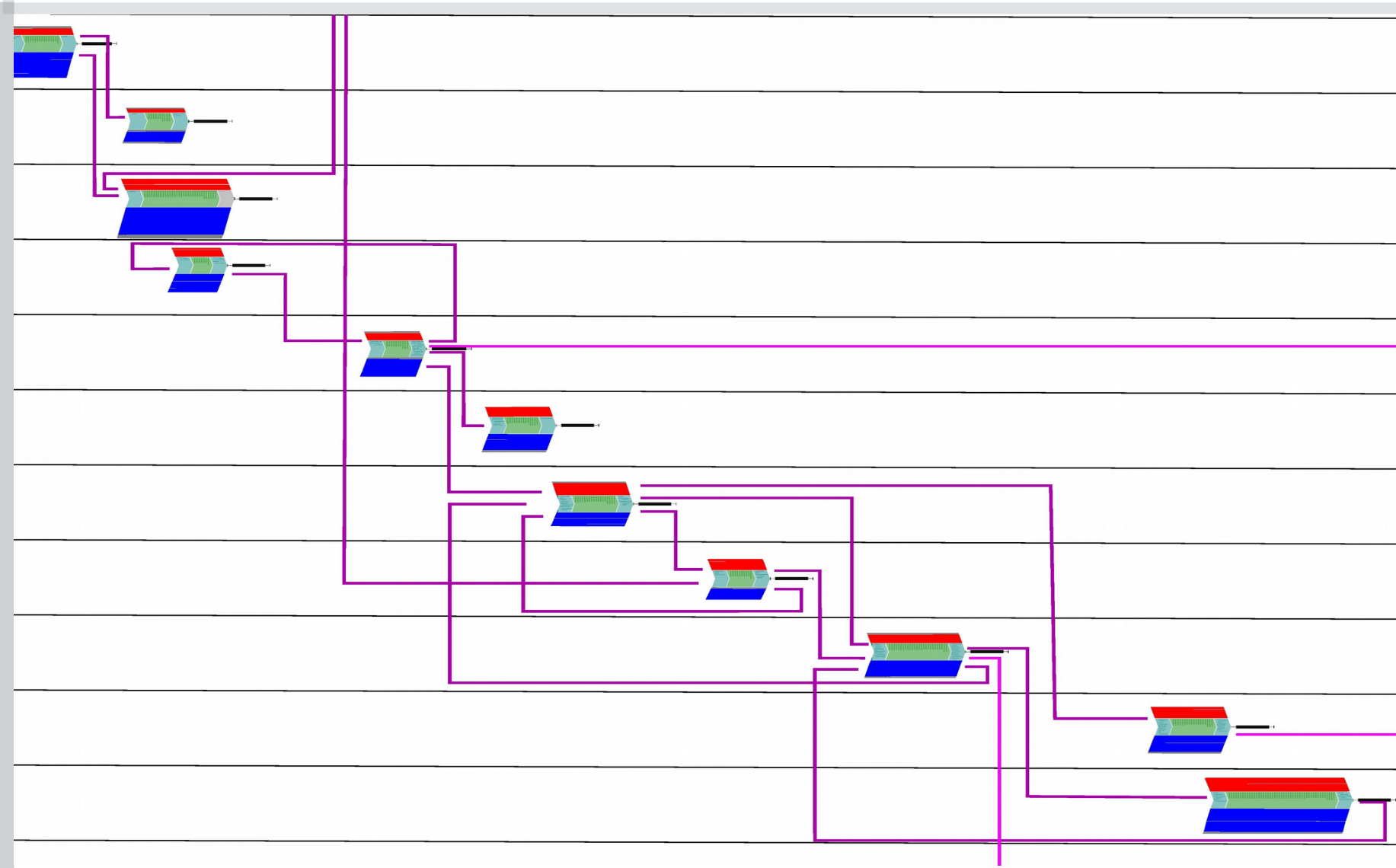
Management tools
Observation: actual production procedures



Management tools
Visuals: Extracting the key values



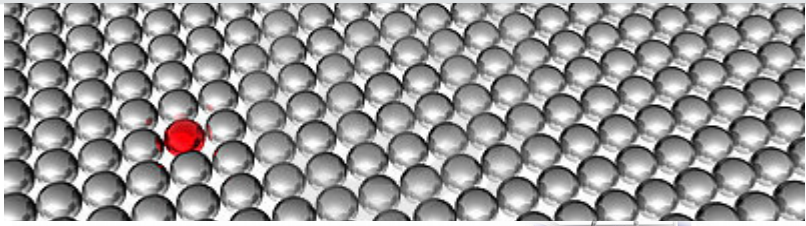
Management tools
Visuals: Product-based process landscape



conclusion?

Conclusion

- **SOA approach highly needed** in modern map production
- „**Dependency on the others**“ is a main characteristic within SOA
- Appropriate **management structures** are urgently needed (stewardship, cross-organisational process- and change management)
- Geospatial specific management **tool derivations**
- **e.g.: impact of SDI and OGD requirements on evaluation parameters?**



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