TO:
Directorate-General for Financial Stability, Financial Services and Capital Markets Union (DG FISMA)
European Commission

**Have your say: EU financial system – supervisory data strategy**
**ROADMAP: Strategy on supervisory data collection in EU financial services**

First of all, a lot of thanks to Directorate-General for Financial Stability, Financial Services and Capital Markets Union (DG FISMA) for organising this important consultation.

This opinion represents an opinion of an individual citizen, not any legal entity.

This opinion does not contain:

- any business secrets
- any trade secrets
- any confidential information.

This opinion is public.
PDF file of this opinion can be added to a relevant web page.

Annex 1 holds information about previous consultations at the European Union level.
Annex 2 holds information about copyright, licence and disclaimers.

Best Regards,

Jukka S. Rannila
citizen of Finland

signed electronically

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**About previous consultations / Repeating several issues**

Annex 1 holds information about previous consultations. I have repeated the same issues several times and previous consultation documents can be assessed critically. Different units of the European Commission already know something about my previous opinions.

**Highlighting only some issues**

This opinion does not handle all issues which are mentioned on the consultation document. I have presented different issues to different units of the European Commission. Generally speaking many proposals are already implemented and therefore I don't present all possible issues based on this consultation.

**The consultation document is technologically neutral and does not mention specific company names**

It is fully understandable that the consultation document is technologically neutral. It is also fully understandable that the consultation document does not mention specific company names.

**Parts I and II**

Part I of this opinion assesses specific issues mentioned on the consultation document and documents mentioned on the consultation document.

Part II of this opinion assesses issues I have presented based on previous consultations.

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# Part I: assessing specific issues mentioned on the consultation document and documents mentioned on the consultation document

**Assessing previous documents**

I browsed other documents mentioned on the consultation document (Roadmap: Strategy on supervisory data collection in EU financial services).

> First document: COMMISSION STAFF WORKING DOCUMENT: FITNESS CHECK of EU Supervisory Reporting Requirements; SWD(2019) 403 final
>
> Second document: Digital Finance Strategy for the EU (Communication); COM(2020) 591 final
>
> Third document: executive summary of the fitness check of eu supervisory reporting requirements; SWD(2019) 403 final
>
> Fourth document: Study on the costs of compliance for the financial sector (Final Report)
>
> Fifth document: On a Feasibility Study of an Integrated Reporting System under Article 430c CRR (Discussion Paper)

**First document: COMMISSION STAFF WORKING DOCUMENT: FITNESS CHECK of EU Supervisory Reporting Requirements; SWD(2019) 403 final**

Annex 2 (ANNEX 2: OVERVIEW OF LEGISLATIVE ACTS IN SCOPE) provides overview of legislative acts in scope. I counted seventeen (17) different legislative acts. It seems that there is a lot work for consolidating different information technology issues based on these seventeen (17) legislative acts. Annex 6 provides more information about reporting requirements per reporting framework (17).

> **NOTE: Consolidating different information technology issues based on these seventeen (17) legislative acts needs a coherent and widely agreed technical roadmap for actual consolidation.**

Annex 2 (ANNEX 4: OVERVIEW OF MAIN ISSUES WITH EU SUPERVISORY REPORTING REQUIREMENTS) lists overview of main issues with EU reporting requirements:

> Complexity and lack of proportionality of requirements
> Unclear and inconsistent definitions
> Insufficient or inconsistent use of standards and formats
> Distribution of requirements between Level 1 and Level 2 acts

Double reporting and overlaps
Redundancy of certain data requirements
Inappropriate frequency and timing of reporting
Too many ad-hoc requests
Lack of harmonisation and national ‘gold-plating’
Data validation issues
Frequent changes to requirements and insufficient time for implementation
Lack of information on the usage of reported data
Inadequate consultation of the industry and ‘consultation overload’
Data gaps
Inadequate data quality
Co-operation and data sharing between supervisory authorities

It seems that different regulations for European Union supervisory reporting requirements have been developed based on sector-specific regulations and more general regulations. Naturally this this development has caused several overlaps for different regulations.

**Second document: Digital Finance Strategy for the EU (Communication); COM(2020) 591 final**

Here I note that this document does not outline technical issues.

**NOTE: At some point there has to be some consultations about detailed technical details.**

**NOTE: There may be enough strategies and we need concrete roadmaps for developing different information systems.**

**Third document: executive summary of the fitness check of EU supervisory reporting requirements; SWD(2019) 403 final**

Third document mentions following conclusion:

The detailed mapping of structured reporting requirements carried out has shown that, of the more than 72,000 data points examined, only 42 data points precisely overlap (less than 0.06%). However, the analysis applied a narrow definition of what constitutes an ‘overlap’. Many data points have a high degree of similarity and other data points (in theory) could be derived from already reported data.

**NOTE: It seems that serious problems with different definitions related to data collection.**

**Fourth document: Study on the costs of compliance for the financial sector (Final Report)**

Investment in/updating IT was most important cost item across all fives sectors included in the survey. IT maintenance was a significant cost item across all five sectors included in the survey.

**Fifth document: On a Feasibility Study of an Integrated Reporting System under Article 430c CRR (Discussion Paper)**

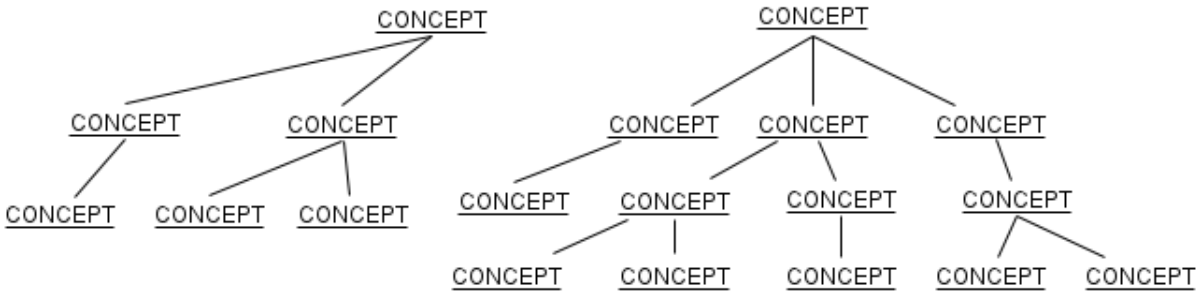
Annex 5 (Central data collection point) should be assessed carefully when developing new information systems.

**General conclusion**

European Union financial system supervisory data strategy implementation seems to have several problems.

**First problem: Unclear and inconsistent definitions**

Here I note that different concepts are related to each other.




One concept may can contain other concepts which can be layered in different ways.

> **Proposal: There could be some serious work for going through different concepts on different legislative texts and on other relevant texts.**
>
> **Proposal: Different concepts could be presented as layers of concepts.**

What to do after presenting different concepts as a layered system? After this it could be easier to explicate all concepts based on following questions:

- What?
- Who?
- How?
- When?
- Where?
- What are exact rules for this concept?

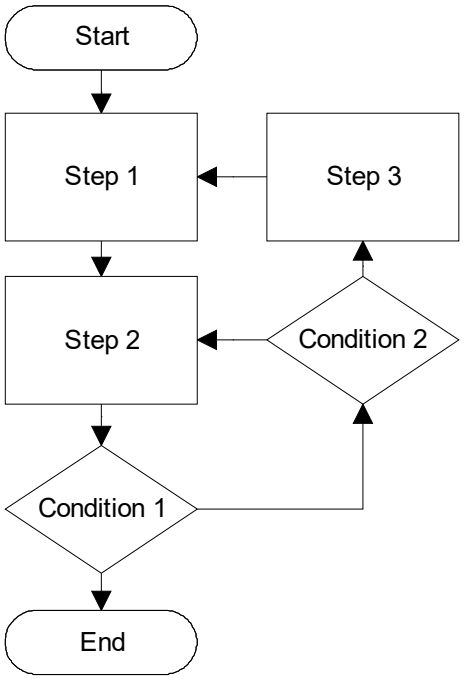
After this work it should easier to create a clear vocabulary for all related concepts.

**Proposal: There could be creation of a clear vocabulary (what, who, how, when, where and exact rules) after explicating layers of different concepts.**

It seems that there can be a lot of concepts (tens or hundreds?) when creating a clear vocabulary to financial application area.

**Proposal: There could be a separate project for creating a clear vocabulary.**

One solution for presenting different processes is presentation of different workflows.




Here I note that it is much easier to create workflows when there is a vocabulary with clear definitions for different concepts and with actually defined clear rules.

**NOTE: There can be serious work without presenting workflows since information systems are hierarchical structures.**

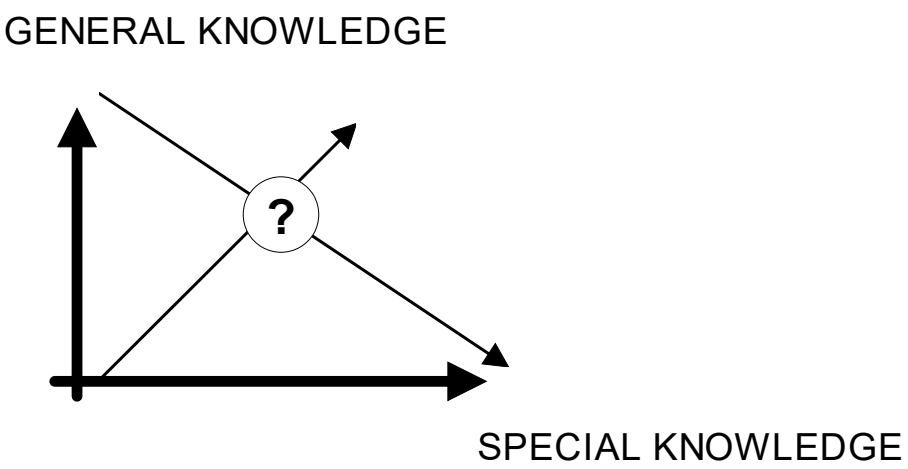
**NOTE: Presenting workflows is not a necessity.**

**Second problem: Complexity and lack of proportionality of requirements**

How to present different requirements without problems?

After presenting a vocabulary (and possibly workflows) it is easier to differentiate roles for different

actors. Presenting different roles can mean even more detailed concepts (what, who, how, when, where and exact rules).




At this point it is possible to gather more information from different stakeholders (special knowledge). Different stakeholders have different roles and they may use some parts of different systems which are used on the application field – in this case financial information.

**Proposal: Explaining different roles of stakeholders can help when creating an information system.**

**NOTE: This phase may mean more detailed concepts (what, who, how, when, where and exact rules).**

**Proposal: It is possible to present requirements based on different roles.**

What happens after explaining different roles and requirements? Well – at this point it should be clear how different actors could use information.

After explicating different roles it is possible to assess different requirements based on different roles. Different roles can mean different requirements for an information system.

At this point it is possible to think different tasks for humans and computers. Different roles mean usage of computers but in some cases human actions are more efficient. The problem is creating division of labour between computers and humans. In some cases division of labour is implemented wrongly and humans get tired with a computerised system.

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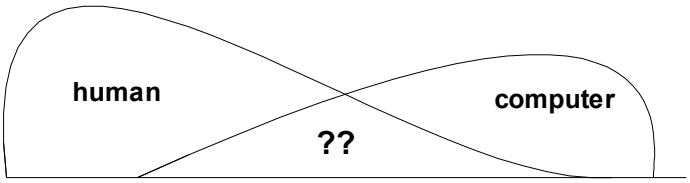
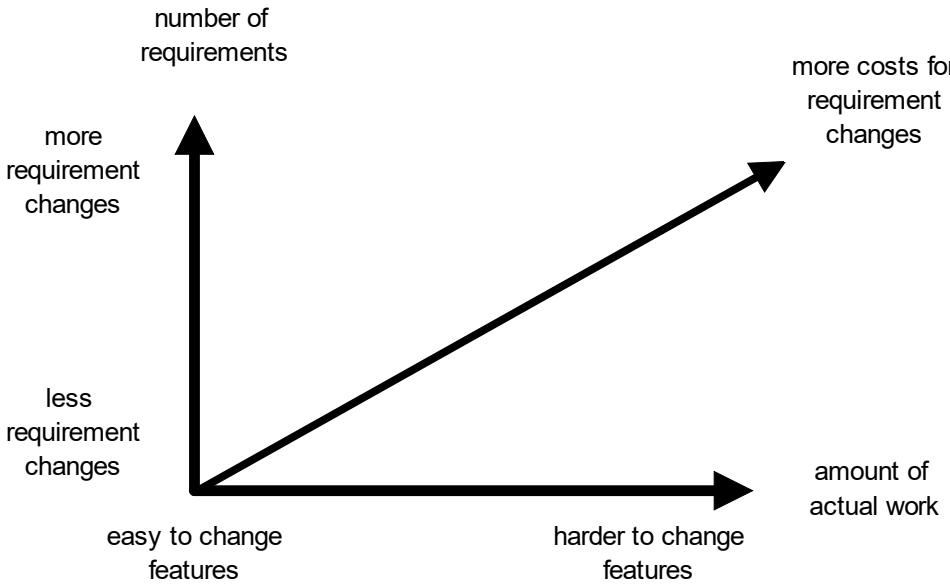



**Proposal: Different requirements can be assessed based on division of labour between human (roles) and computer.**

**Third problem: Frequent changes to requirements and insufficient time for implementation**

Changes to requirement is a fact of life. What we should do with changing requirements? We know well that changing requirements mean different costs.



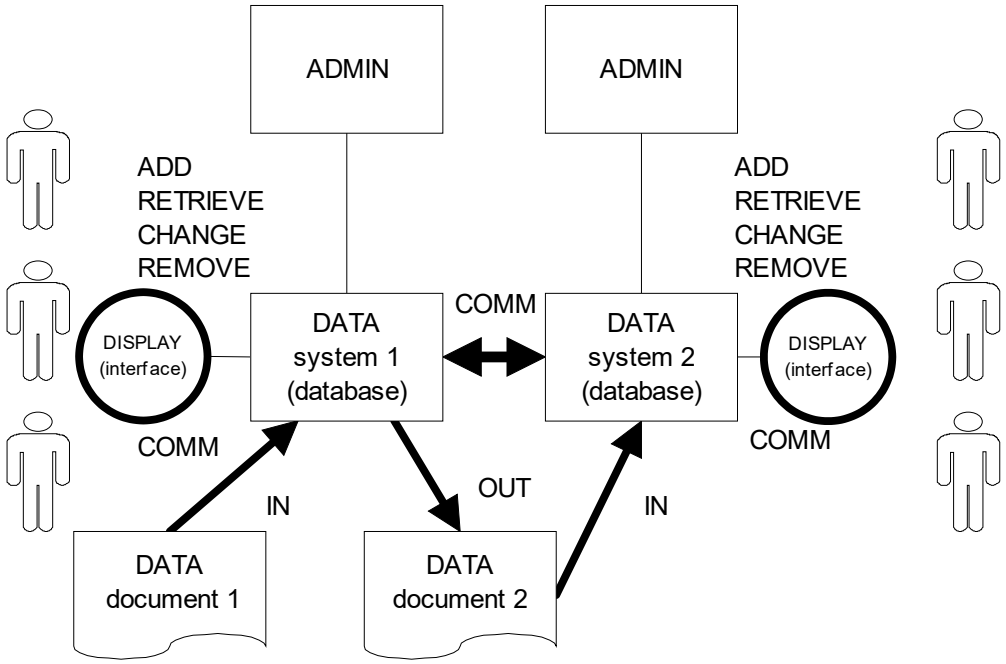

When there is a clear division of labour between all roles (also humans and computers) it should be easier to decide which roles are more important than other roles. Based on this decision it is possible to create a roadmap for implementing features of an information system. Some roles may more critical than other roles and this means a clear roadmap for implementation of different requirements.

**Proposal: Requirements can be classified based on different roles.**

**Fourth problem: Redundancy of certain data requirements**

It can be noted that a clear vocabulary helps also with data requirements.

One presentation of a computerised system is the following figure.




There are two issues: data can be on documents and data can be on databases. (1) Data can be transmitted with documents between systems. (2) Data can be transmitted directly between systems.

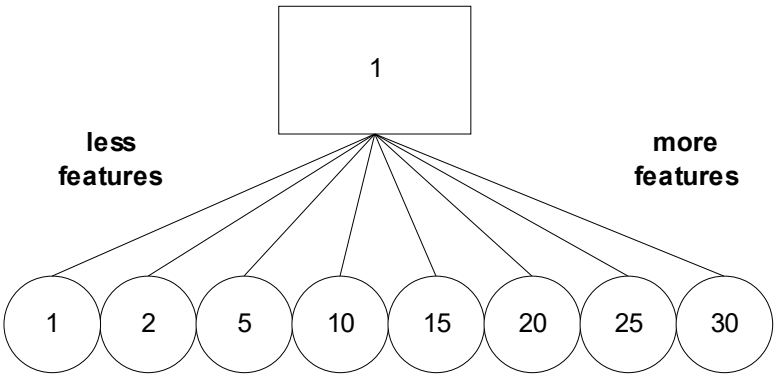
According to my guess it is easier to transmit documents between systems. Direct connections between systems mean more development.

**Proposal: Data requirements can be divided to two class: documents between systems and direct connection between systems.**

**NOTE: It is easier to transmit documents between systems.**

This leads us different application programming interfaces (API). Application programming interfaces (API) are easier to develop when comparing to direct connection between systems. With application programming interfaces (API) is possible to serve the same request several times even though requests can be from different systems.

There can be redundancy of certain data requirements. It is possible to have different application programming interfaces (API) which can handle different requests. Depending on the situation there can more or less features for different application programming interfaces (API).

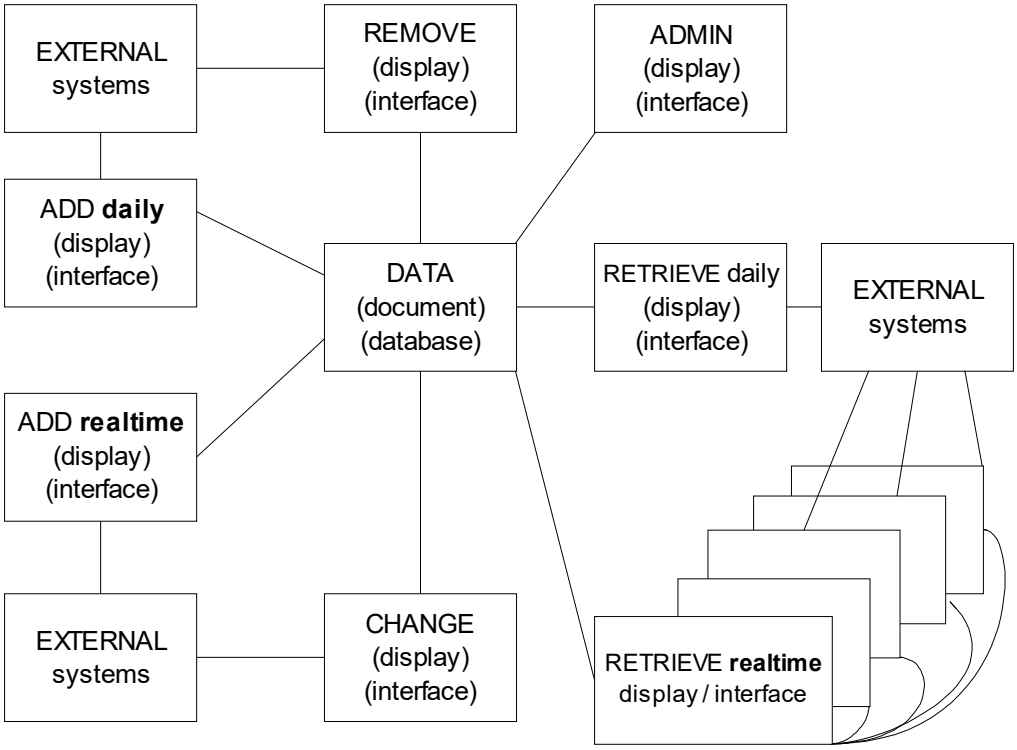



**Proposal: Different application programming interfaces (API) could be classified based on urgency.**

**Proposal: Different application programming interfaces (API) could be standardised.**

**Fifth problem: Inappropriate frequency and timing of reporting**

Four basic functions for all information systems are mentioned before: retrieve, add, change, remove and administration. There can be different real-time requirements for an information system. In some cases there can be replicated systems for retrieval and external systems can use replicated systems.

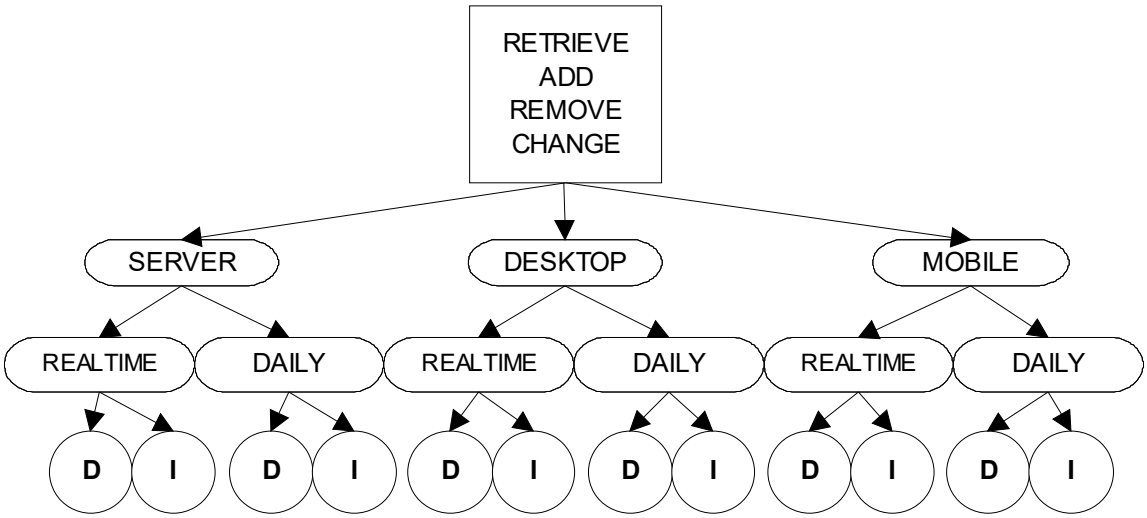


The most basic function is retrieving information from information systems. Different application programming interfaces (API) are already mentioned.

**Proposal: Different time frames could be assessed and classified.**

There can be different time frames for real-time functions and other functions.

In current technological environment there can three different computer classes: servers, desktop computers and mobile computers. It can noted again that The most basic function is retrieving information but retrieval can be real-time or slower.




**D = Display; I = Interface**

**Proposal: Different time frames for servers, desktop computers and mobile computers could be assessed and classified.**

**Sixth problem: Inadequate consultation of the industry and 'consultation overload'**

I have not mentioned before interoperability which is very important issue. Interoperability leads us to different viewpoints. Previously I have mentioned difference between general knowledge and special knowledge.

When thinking interoperability there is a clear need to understand different viewpoints.

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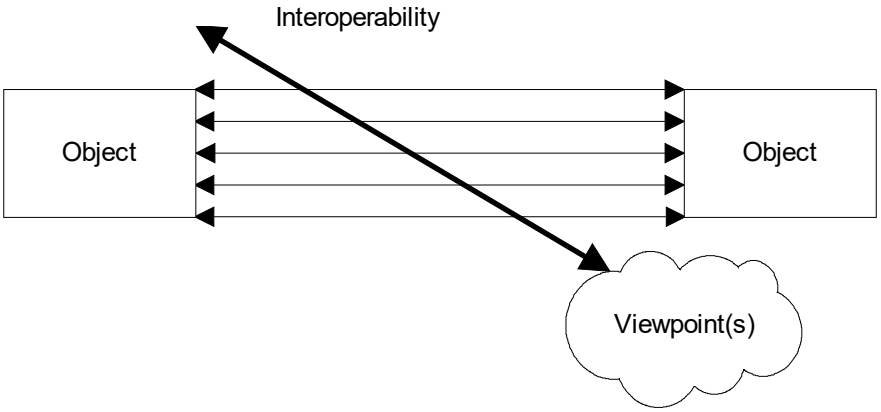
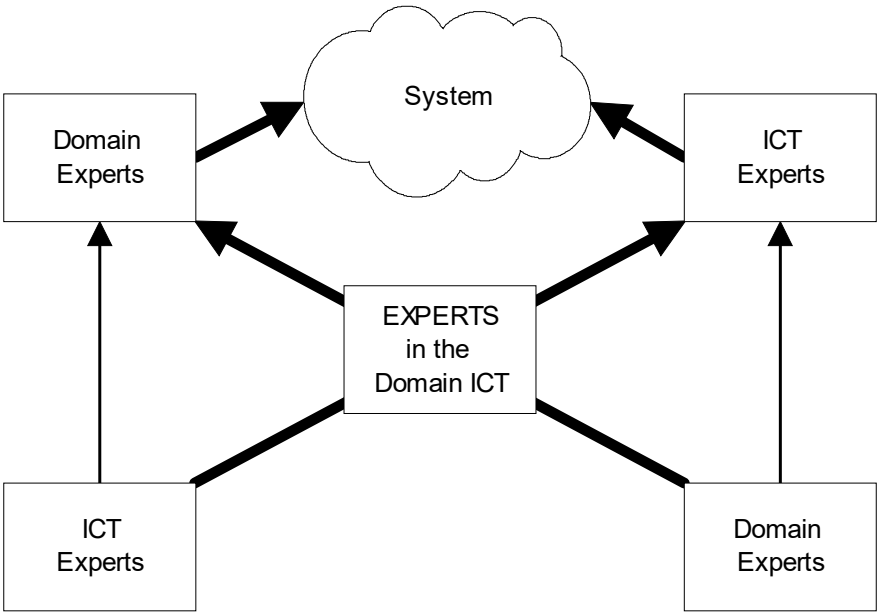



There can be several layers of connections between some objects and these layers can be assessed based on different viewpoints. Some of these relations are not computer-based. An example of a specific layer (non-computer) is the legal layer. There are different legal issues which can be assessed based on different viewpoints.

Who is the expert?

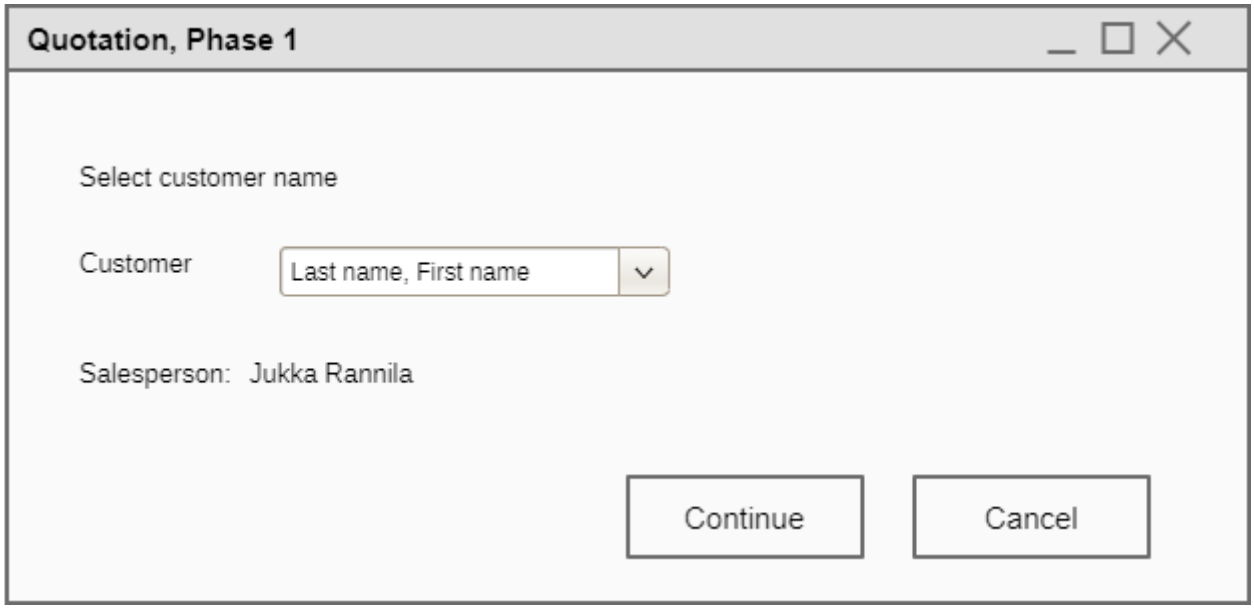



Here I note that information technology expertise is rather general since it is possible to learn (general basic courses) information technology issues without any domain expertise. Domain experts may not be information technology experts but in some cases (like medicine) deep understanding of a domain means a lot of work.

My conclusion is that information technology expert will not become domain experts during an

information technology project. On the other hand domain experts will learn different information technology issues but it takes some time.

Previously I have mentioned different concepts and creation of a vocabulary (what, who, how, when, where and exact rules). When thinking a concept it is possible to think user interfaces based on concepts. The following figure presents "quotation" as a concept. From salesperson viewpoint it could be possible to start creation of a quotation by selecting a customers´ last and first name.




Nowadays there are some solutions for creating mock-up screens. It is possible to think concepts from different viewpoints. Then it should be easier to create different interface proposals based on concepts which can be viewed from different viewpoints.

**General conclusion**

I did not give proposals for solving all mentioned problems. I did propose some issues to be considered when planning and implementing several issues mentioned on different documents.

**More technical consultations after this consultation?**

The consultation document did not contain information about technical issues. There could be more technical consultations based on the results of this consultation.

> **Proposal: More technical consultations for assessing different technical issues could be organised after this consultation.**

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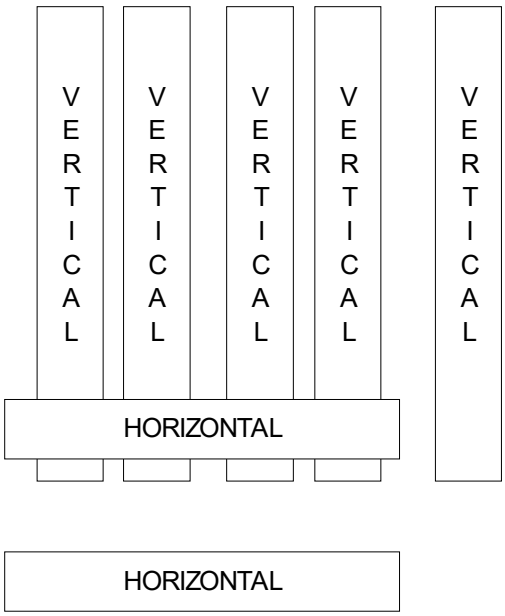
# Part II: assessing issues based on previous consultations

**Favouring horizontal standards**




There are differences between horizontal and vertical standards. A simple example is naturally email solutions. There are several vertical standards when creating technically email solutions. Then there are horizontal standards which enable sending messages between technically different email solutions.

**Proposal: There could be assessment of vertical and horizontal standards.**

**Proposal: Using horizontal standards could be favoured when creating different information systems on the European Union level.**

Horizontal standards enables technological solutions which can work together. Horizontal standards hides different complexities in information systems.

**Opinion: The number of redundant standardisation efforts should be minimal.**

**Proposal: There could be separation of horizontal standards and vertical standards.**

**Proposal: There could be different standardisation efforts to horizontal standards and vertical standards.**

Personally I have advocated using different horizontal standards. For example email standards

(horizontal) are implemented with very different technologies (vertical).

Here we can note some problems:

- some systems are based on **de-facto** standards
- some systems are based on **de-jure** standards
- there can be confrontations between **de-facto** and **de-jure** standards
- there can be a monopoly situation in some domain
- some standards may inhibit possible actions of some stakeholders
- there can be a standard war on some domains
- standards have different life-cycles
- systems have different life-cycles
- there can be mismatches between different life-cycles
- there can be failed standards
- there can be deprecated standards.

It is quite normal situation in the information technology field that there are competing standards for some application field. Therefore there are all the time ongoing “standards wars” or “format wars”. The information technology standards tend to be interrelated and one “standards war” or “format war” can lead to another similar situation.

I have advocated open standards even though in some cases open standards are not de facto standards. In practice public sector has very important role, when some standards are competing in the market place. Because public sector has a considerable power when buying/developing information systems and therefore public sector can sometimes direct markets to certain standards. Therefore there should be serious vigilance when assessing different standards and “standards” in some application fields.

There are different standards setting organisations on the information technology field. One list [1] of these standards setting organisations is provided by ConsortiumInfo.org.

One warning can be said about standards setting organisations. All standards setting organisations are not successes based on several factors and there can may irrelevant standards setting organisations. Market situation on different vehicle markets varies a lot based on different factors.

**Proposal: Current standardisation (e.g. list provided by ConsortiumInfo.org) efforts by different standard setting organisations could be assessed carefully.**

Personally I have advocated using different horizontal standards. For example email standards (horizontal) are implemented with very different technologies (vertical).

**Proposal: Governments should especially concentrate on horizontal standards.**

**Proposal: Some government agencies could apply for memberships of different**

1 Standard Setting Organizations and Standards List, https://www.consortiuminfo.org/list/

**standard setting organisations which develop especially horizontal standards.**

**Proposal: Government agencies should not be passive by-standers when different horizontal standards are developed.**

**Proposal: Government agencies could financially support development of horizontal standards.**

**Proposal: There could some guidance for using open horizontal standards on different application fields.**

**Five basic functions for all information technology solutions**

Generally speaking all information technology solutions have five basic functions:

- retrieve
- add
- change
- remove
- administration.

Generally speaking most used function is retrieving information from different systems.

**Black box – Information technology solutions**

Usually we are using information systems without knowledge about internal functions – this can be described as black box solution.

In many cases four basic functions (add, remove, change, retrieve) are working well without problems (black box).

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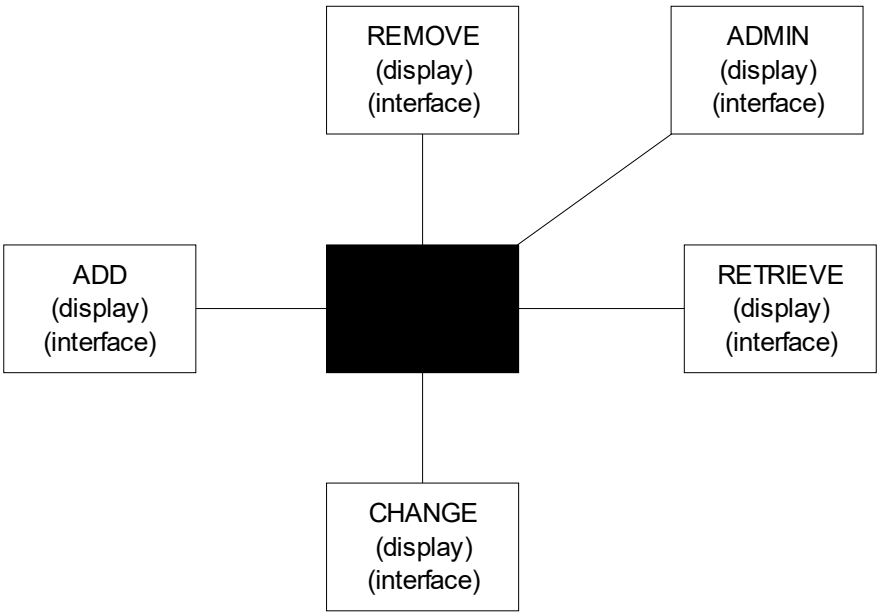
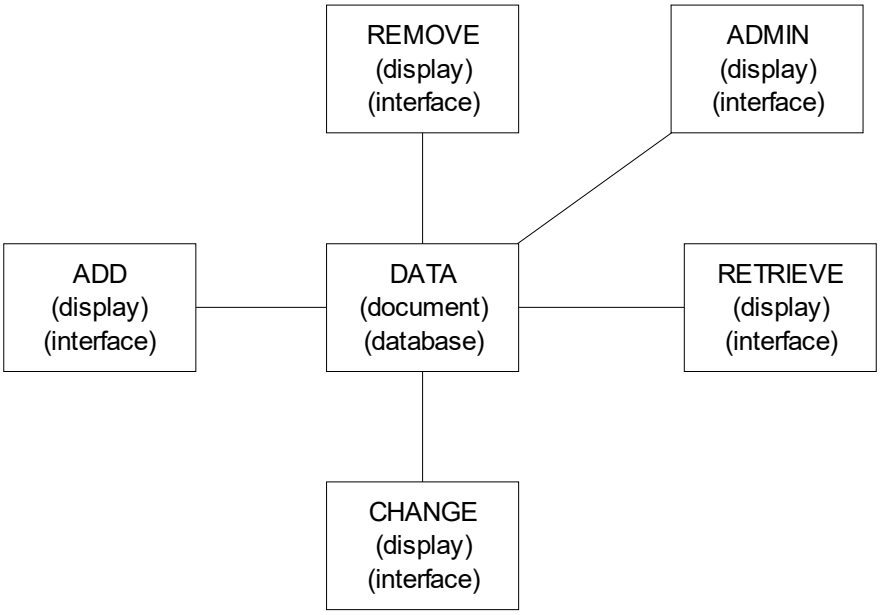



Here we can note that providers of different information technology can read data of some information technology solutions. Providers of different information technology solutions can also develop programs and machinery.

**White box – Information technology solutions**

In some cases (open of free software) information about programs and machinery can be accessed by several stakeholders – i.e. white box.



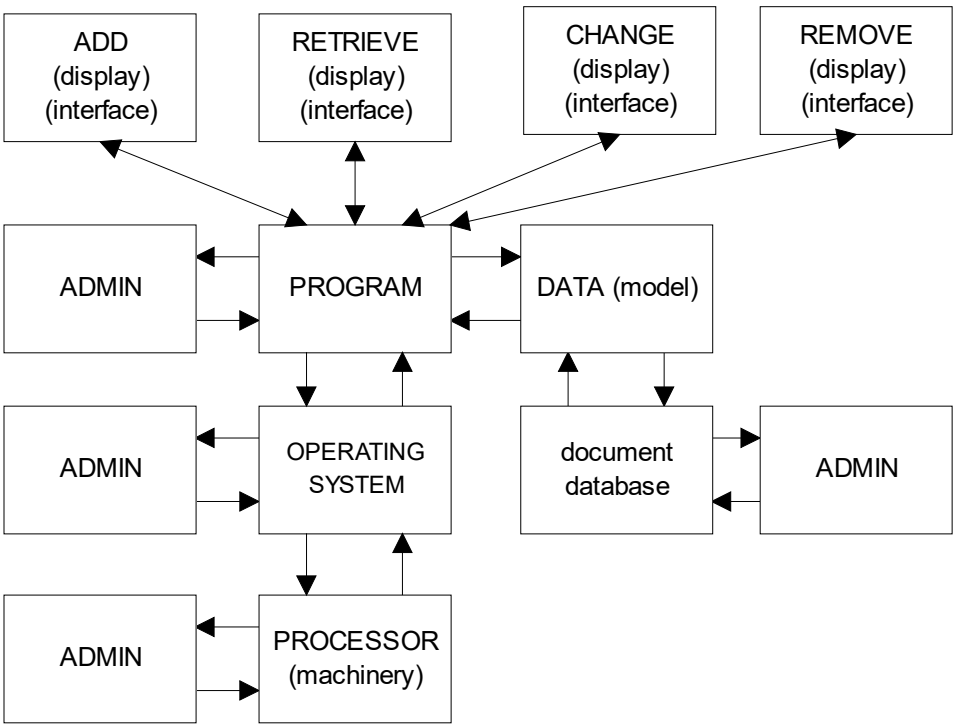
Here we can note that different APIs can be used with closed systems and there is no need to understand internal working of an information system.

**Proposal: There could be some guidance for different APIs (retrieve, add, change, remove, (administration)) when actually doing some functions.**

Here we can note that different APIs can be open or closed.

**Proposal: There could be some guidance for creating open APIs.**

**Adding more details for information technology solutions**




All information technology solutions have also processor(s) (machinery), operating system(s) and program(s). Processor(s) (machinery), operating system(s) and program(s) all need administration for keeping a system up-to-date. All programs handle data in some format and data can be database(s) and/or document(s).

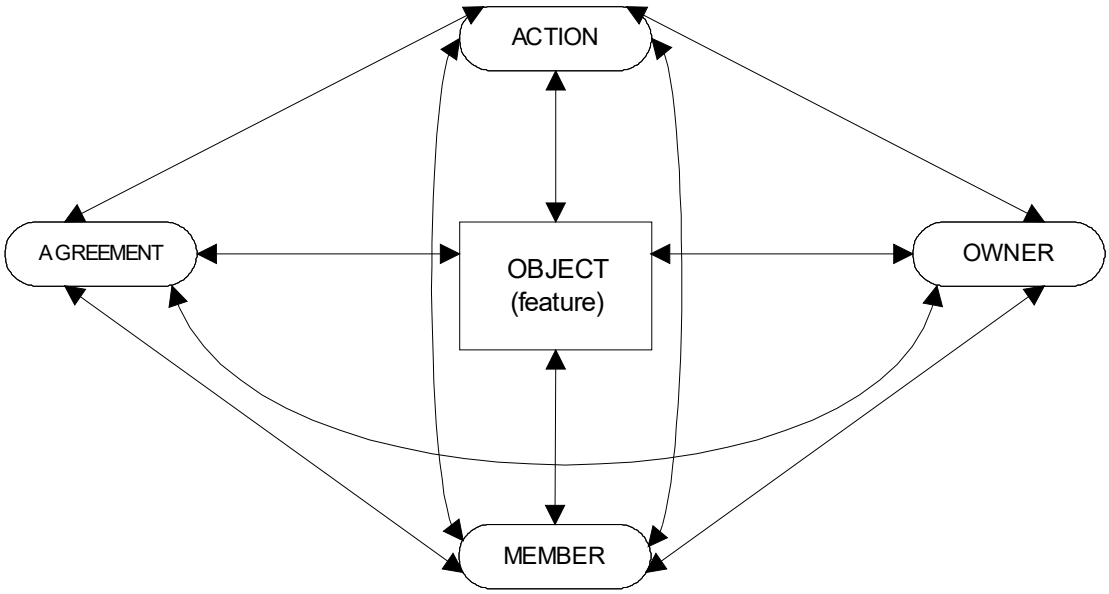
**Owner, member, agreement, standards, openness and closeness**

Here we can note the difference between owners, agreements and members. In reality ownerships agreements and memberships cause very complex networks, and those networks are changing all the time: divisions, mergers, ownership changes, agreement changes, cooperation with other

entities, life-cycles, etc.

Here we can note that ownership, agreement and membership are interlinked in different ways. Generally speaking average usage of a system means an unique combination of ownership, agreement and membership. When everything works fine there are not problems. However changes with ownership, agreement and membership can result difficult situations.

All previously mentioned issues can be based on ownership, membership and agreements. There can be also different standards, which can be open or closed.




**Note: The relations between different aspects of information systems can result rather complicated (legal) network(s): i.e. Ownership, Membership, Agreement.**

Based on previous presentations it is possible to present following table.

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| | Owner? Member? Agreement? | Standards? | OPEN | CLOSED |
|---|---|---|---|---|
| **1. Device / Machinery** | | | | |
| **2. Operating system** | | | | |
| **3. Program(s)** | | | | |
| **4. Data models / Conceptual models** | | | | |
| **5. Documents** | | | | |
| **6. Databases** | | | | |
| **7. Communications** | | | | |
| **8. Retrieve / Interface / Display** | | | | |
| **9. Add / Interface / Display** | | | | |
| **10. Remove / Interface / Display** | | | | |
| **11. Change / Interface / Display** | | | | |

Here we can note that there are unique situations with ownership, membership and agreements.

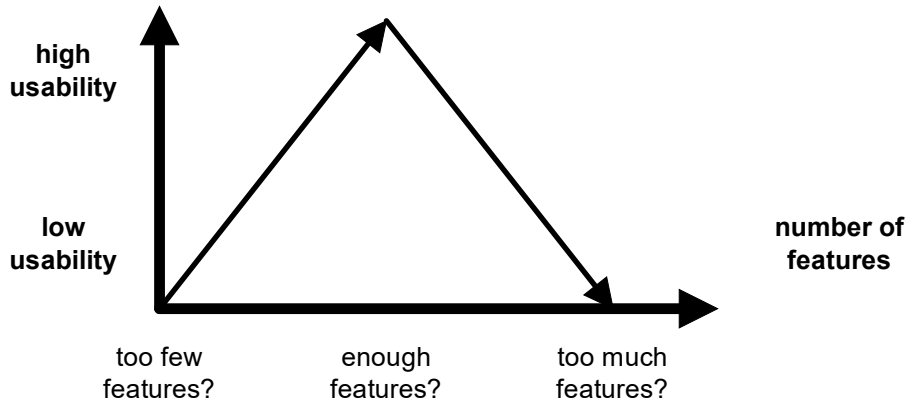
**NOTE: Unique situations with ownership, membership and agreements complicates usage of different information systems.**

I have advocated following solution as the maximum solution:

* public sector institute owns the machinery and processor of the information system
* the machinery and processor are based on relevant open standards
* the operating system is based on an open-source solution
* public sector institute owns the source code of the information system
* public sector institute owns the database of the information system
* the database is based on open-source solution and on relevant open standards
* public sector institute owns all data in the information system.

Naturally there can be solutions which are not based on the maximum solution.

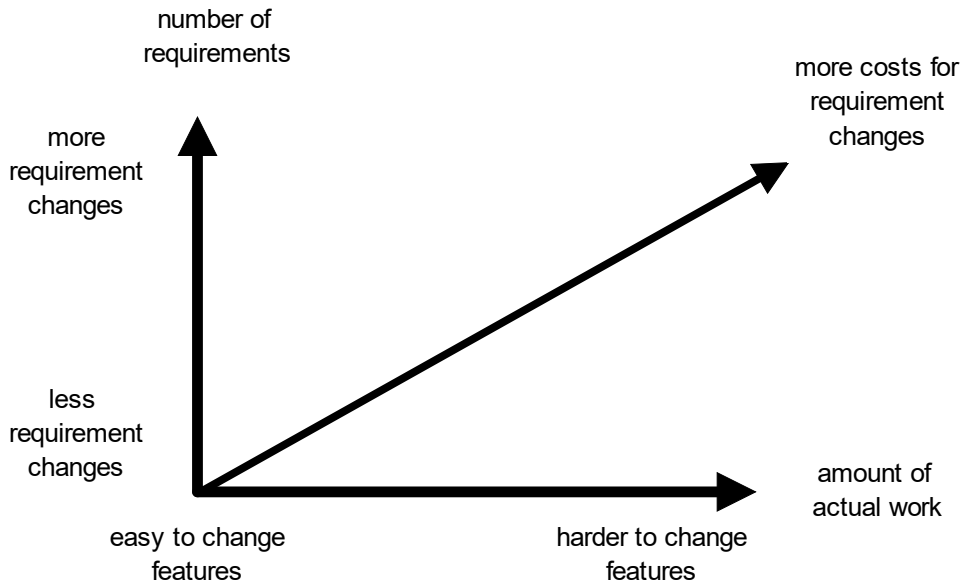
**Features and requirements in different information systems**




One issue is assessment of different features.

**Proposal: Number of different information system features could assessed carefully.**

**Proposal: There should not be too much features in information systems.**



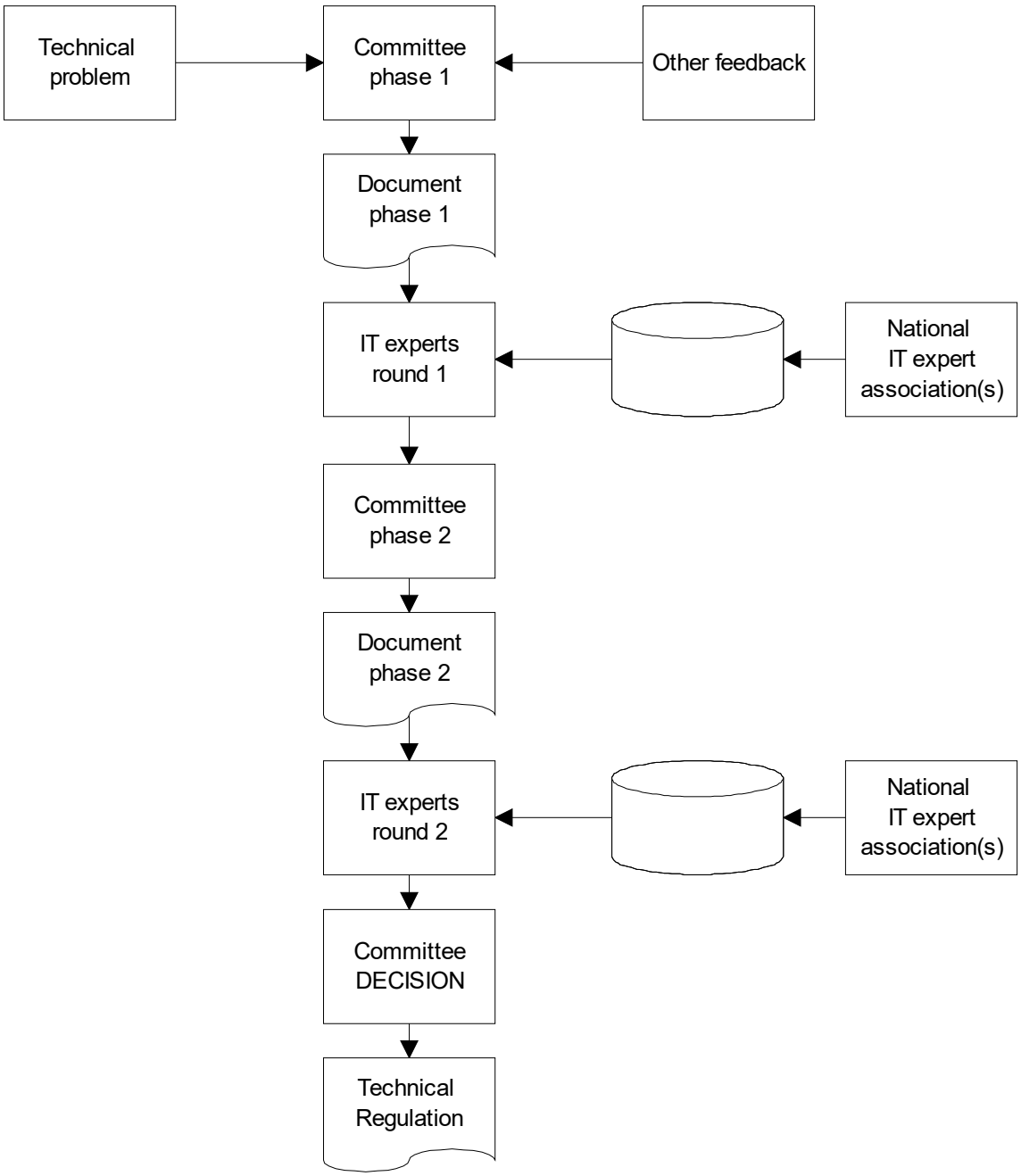

One issue is number of different requirements. There can be too many requirement changes which mean more work for system developers.

**Proposal: Number of requirements could be assessed carefully.**

**Proposal: All new requirements should be assessed very carefully before implementing different requirements in different information systems.**

**Possible technical consultations**

**Proposal: There could be more technical consultations based on the results of this consultation.**



An example of more technical consultation could be assessment of different XML formats. One option is distributing information about technical consultations to different information technology expert associations. Naturally there can be different phases (e.g. two phases) for assessing different information technology issues.

**Proposal: Information about more technical consultations could be distributed for different information technology expert associations.**

**EU-wide level?**

I have noted several times that different member state systems (MSS) can interlinked in many ways. This means that co-operation with European Union systems means a lot of work. This leads to the question of a European Contact Point (EUCP) for different member state systems (MSS).

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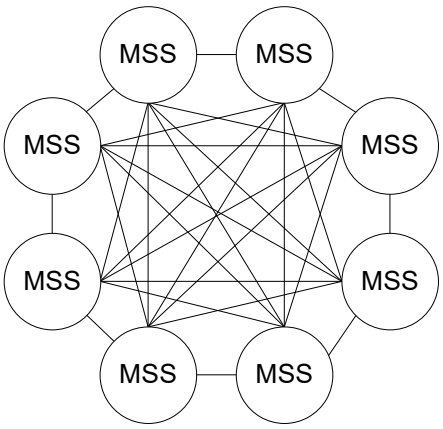



**MSS = Member State System**

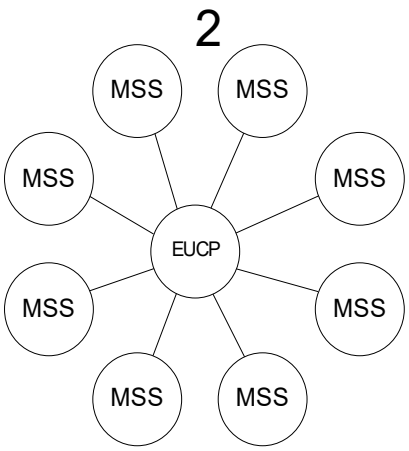
There are 28 member states (European Union) at the moment. In reality there are unique situations with information systems in different member states. In some cases information systems can be implemented based on complex system-to-system connections. Complex system-to-system connections means a lot of work when there are changes in some systems.

Naturally there could be direct contacts between different member state systems (MSS) and European Union Contact Point (EUCP). This option (MSS ↔ EUCP) could mean very large number of different member state system. Based on 27 member state systems there could be hundreds of connections:

27 x 10 = 270 MSS ↔ 1 EUCP
27 x 20 = 540 MSS ↔ 1 EUCP
27 x 30 = 810 MSS ↔ 1 EUCP

Here we can note that there can be hierarchy between different system (EU ↔ member states) and there can be member state contact points (MCP). Then there can be some hierarchy between different systems. (EU ↔ EUCP ↔ MSCP ↔ MSS ↔ Member state). There are unique situations with member state systems in member states. Therefore member state contact points (MCP) can reduce the complexity with European Union contact point (EUCP)

Based on those large numbers connecting (MSS ↔ EUCP) member state system I have to conclude that there should be member state contact points (EUCP ↔ MSCP ↔ MSS).




**MSS = Member State System, EUCP = European Contact Point**

In the current situation, European Union member states (and some co-operation states) have their own internal IDs for several information systems. Also, the members states organised as a federation have their own internal problems with state-level IDs.

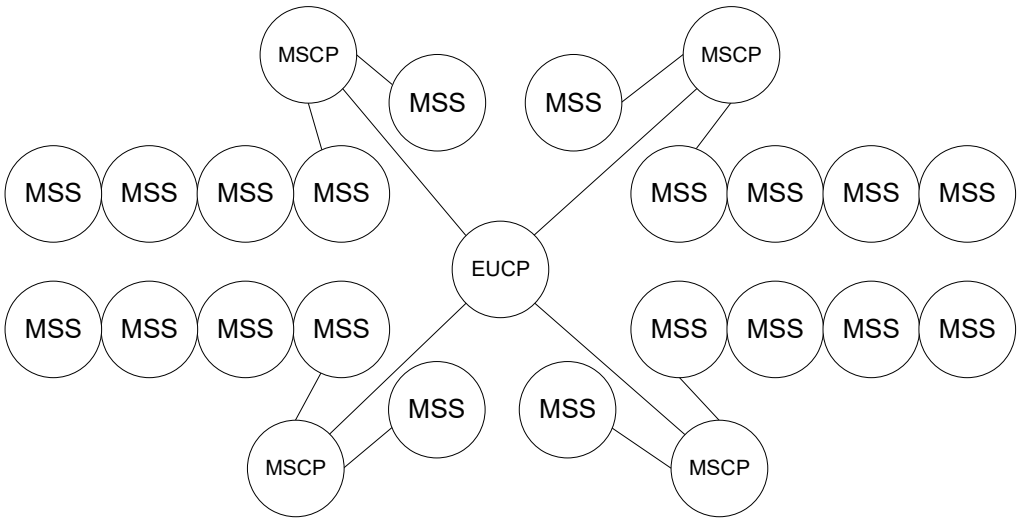
Based on those calculations there could be a lot of direct connections to the European contact point. Number of those connections can be overwhelming. The situation between member states can vary in many ways. So there can different and unique systems between member states.

On the other hand, there are some working examples of joined or federated EU-wide registers. However, the amount of administration and needed legally binding agreements is considerable.

**Proposal : There could be one information system (member state contact point, MSCP) on member state level.**

[Continues on the next page]

3




**MSS = Member State System**
**MSCP = Member State Contact Point, EUCP = European Contact Point**

The solution can be, that member states have own Member State Contact Points (MSCP) and different state level systems are combined gradually. Then the member state system IDs can be used in the European Contact Point (EUCP).

Based on those large numbers connecting (MSS ↔ EUCP) member state system I have to conclude that there should be member state contact points (EUCP ↔ MSCP ↔ MSS).

Here we can note that there can be hierarchy between different system (EU ↔ member states) and there can be member state contact points (MCP). Then there can be some hierarchy between different systems. (EU ↔ EUCP ↔ MSCP ↔ MSS ↔ Member state). There are unique situations with member state systems in member states. Therefore member state contact points (MCP) can reduce the complexity with European Union contact point (EUCP).

**Proposal: Different member state systems could be consolidated based on limited number system-to-system connections.**

**Proposal: There could be some time frames for consolidating different member state systems (MSS) with member state contact points (MSCP).**

**Proposal: There could be some time frames for consolidating member state contact points (MSCP) with the European Union contact point (EUCP).**

**Proposal: One information system (member state contact point, MSCP) on member state level could handle system-to-system connections with the European Union level (European contact point).**

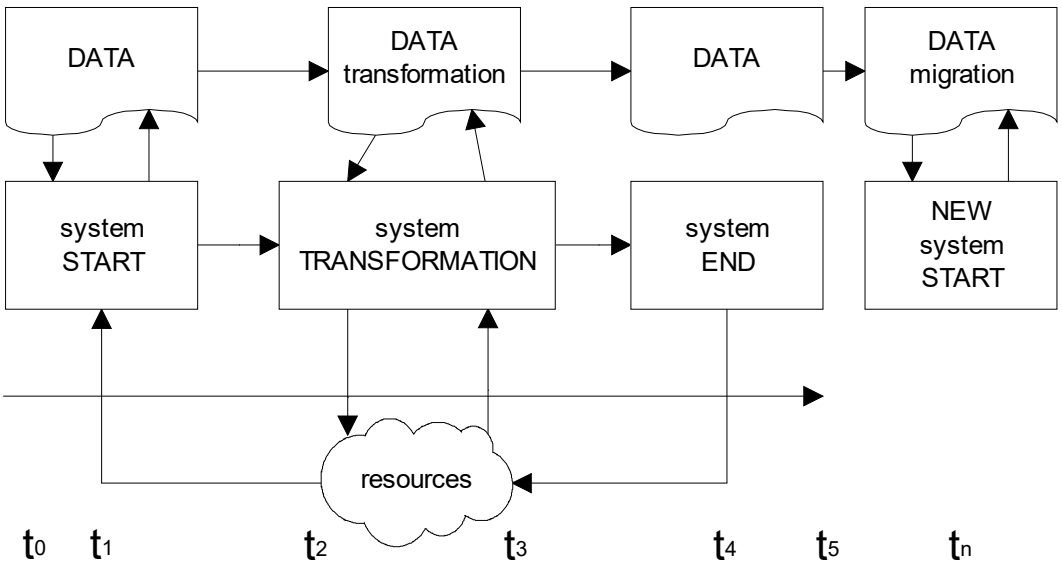
**Proposal: There could be some serious work for developing a standardised member state contact point (MSCP).**

**Proposal: After developing a standardised member state contact point (MSCP) different member states could consolidate their systems (MSS ↔ MSCP).**

**Proposal: European Union contact point (EUCP) and member state contact points (MSCP) could then handle cooperation (EUCP ↔ MSCP ↔ MSS) on the European Union level.**

Naturally we have to note that developing a standardised member state contact point (MSCP) means more work. On the other hand a standardised member state contact point (MSCP) could handle cooperation (EUCP ↔ MSCP ↔ MSS) based on unique situations in member states. Some member states may have more systems than other member states. We have to note that there are different systems based on several technological solutions.

**System timeline**



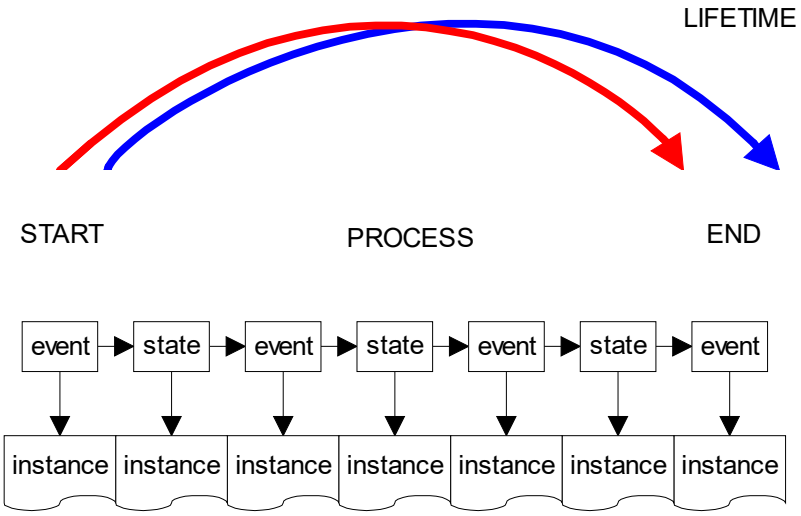

**Proposal: Different information systems could be assessed based on *informations system lifetime*.**

**Timelines for consolidating different systems**

Here we can note following issues:

- lifetime for different systems
- processes have lifetime (active processes)

- processes are implemented with help of an information system
- there are different states and events during a processes
- there can different documents based on states and events




**Proposal: There could different timelines for consolidating different information systems.**

**Note: consolidating different information systems can mean work for years.**

**About different identifiers (ID)**

Developing a standardised member state contact point (MSCP) means some work to be done. Here we can note that there will be several ***identifiers*** when developing new systems and maintaining current systems (EUCP ↔ MSCP).

I have proposed several times to use ***open and public identifiers*** when developing different information system.

**More and more new identifiers (ID)**

In previous consultations there has been discussion about different identifiers (ID) in different information systems. It can be noted from the previous opinions that there will be several and different identifiers (ID) for different levels.

Examples of these identifiers (ID) are following:

1) Facebook ID for an individual person
2) Facebook ID for the individual up-dates of individuals
3) Data Universal Numbering System (D-U-N-S)

4) Reuters instruments codes (RICs)
5) Social security code for individual citizens in the European Union member states
6) Business identity code for a company in an European Union member state
7) Value added tax code for a company in an European Union member state.

The examples of private identifiers (Facebook IDs, Data Universal Numbering System (D-U-N-S), Reuters Instrumens Codes (RICs)) show, that persons and/or communities can use or even demand of using identifiers (ID) from privately owned information systems.

**Proposal: There could be a systematic review of different identifiers (ID) on different levels.**

**Proposal: Possible systematic review of different identifiers (ID) should assess different situations.**

Different information systems have also internal identifiers (ID) and external identifiers (ID) for (possible) public usage. The added value for different stakeholders is provided by combination of different identifiers (ID) in a specific information system.

**Proposal: The could be some assessment(s) based on different versions of different identifiers (ID).**

It can be possible, that there are some legacy identifiers (ID) in the near future. It can be possible, that gradually some legacy identifiers (ID) can be consolidated for more standardised identifiers (ID), but this consolidation means some serious technical and administrative actions.

**Proposal: Legacy identifiers (ID) could be assessed seriously.**

When information about relevant identifiers is collected, there could be a serious assessment of possible (near) monopoly situation of some identifiers. Depending on the nature of an identifier, there may be a need for serious (anti-trust?) negotiations with providers of some identifiers.

**Proposal: The nature of different identifiers (ID) could be assessed.**

**Proposal: There could be serious negotiations with some providers of identifiers (ID).**

In the European Union there has been different anti-trust cases which are related to different private sector identifiers (ID), since some of those private sector identifiers (ID) have been used in several other systems. Some private sector identifiers (ID) can mean a (near) monopoly situation.

**An example for cooperation: Web feeds (RSS and Atom)**

[Continues on the next page]

I have advocated usage of web feeds [2] on several previous opinion documents. I have advocated usage of web feeds on several previous opinion documents. Actually there are two standards for web feeds: RSS [3] [4] and Atom [5] [6] [7].

**Proposal: Web feeds (RSS and/or Atom) could be advocated when developing different informations systems.**

**Proposal: Web feeds (RSS and/or Atom) should be used extensively for providing (real-time) information for different stakeholder(s) (communities).**

**Proposal: There can be different web feeds (RSS and/or Atom) for different stakeholder(s) – having just one web feed (RSS and/or Atom) may not be a feasible solution.**

**Proposal: Several web feeds (RSS and/or Atom) can be based on different viewpoints.**

It can be easier to create web feeds in different information systems since web feeds enable connections without direct system-to-system connections.

It can be noted, that different back-office systems (with a wide variety of different technologies) can implement RSS standards, and these RSS feeds can be used in the front-office systems. With this kind solutions front-office systems don´t need direct system-to-system communications with back-office systems.

**Good luck!!!**

This opinion is quite limited. Hopefully there are other constructive ideas presented in other opinions. This remains to be seen.

[Continues on the next page]

2 https://en.wikipedia.org/wiki/Web_feed
3 http://www.rssboard.org/rss-specification, RSS 2.0 Specification
4 https://en.wikipedia.org/wiki/RSS, Wikipedia / RSS
5 https://en.wikipedia.org/wiki/Atom_(standard), Wikipedia / Atom (standard)
6 https://tools.ietf.org/html/rfc4287, The Atom Syndication Format
7 https://tools.ietf.org/html/rfc5023, The Atom Publishing Protocol

## ANNEX 1

My opinions to the previous and relevant consultations – there consultations were mostly organised by the European Commission. General page to all consultations – both in English and in Finnish: http://www.jukkarannila.fi/lausunnot.html

My opinions to the previous and relevant consultations – there consultations were mostly organised by the European Commission.

EN: Opinion 1: Review of the rules on access to documents
http://www.jukkarannila.fi/lausunnot.html#nro_1

EN: Opinion 2: Schools for the 21st Century
http://www.jukkarannila.fi/lausunnot.html#nro_2

EN: Opinion 3: The future of pharmaceuticals for Human use in Europe- making Europe a Hub for Safe and Innovative medicines
http://www.jukkarannila.fi/lausunnot.html#nro_3

EN: Opinion 5: Consumer Scoreboard, Questionnaire for stakeholders
http://www.jukkarannila.fi/lausunnot.html#nro_5

EN: Opinion 6: Consultation on a Code of Conduct for Interest Representatives
http://www.jukkarannila.fi/lausunnot.html#nro_6

EN: Opinion 8: European Interoperability Framework, version 2, draft
http://www.jukkarannila.fi/lausunnot.html#nro_8

EN: Opinion 9: CAMSS: Common Assessment Method for Standards and Specifications, CAMSS proposal for comments
http://www.jukkarannila.fi/lausunnot.html#nro_9

EN: Opinion 15: Collective Redress
http://www.jukkarannila.fi/lausunnot.html#nro_15

EN: Opinion 17: Opinion to Antitrust Case No. COMP/C-3/39.530
http://www.jukkarannila.fi/lausunnot.html#nro_17

EN: Opinion 18: Opinion Related to the Public Undertaking by Microsoft
http://www.jukkarannila.fi/lausunnot.html#nro_18

EN: Opinion 19: Official Acknowledgement by the Commission
http://www.jukkarannila.fi/lausunnot.html#nro_19

EN: Opinion 20: SECOND Opinion Related to the Public Undertaking by Microsoft
http://www.jukkarannila.fi/lausunnot.html#nro_20

EN: Opinion 21: Opinion about the European Interoperability Strategy proposal
http://www.jukkarannila.fi/lausunnot.html#nro_21

EN: Opinion 23: Public consultation on the review of the European Standardisation System
http://www.jukkarannila.fi/lausunnot.html#nro_23

EN: Opinion 27: Public Consultation on the Modernisation of EU Public Procurement Policy
http://www.jukkarannila.fi/lausunnot.html#nro_27

EN: Opinion 28: Consultation on the Europe 2020 Project Bond Initiative
http://www.jukkarannila.fi/lausunnot.html#nro_28

EN: Opinion 30: Internet Filtering
http://www.jukkarannila.fi/lausunnot.html#nro_30
NOTE: Organised by the European Committee for Standardization (CEN) [8]

EN: Opinion 32: COMP/C-3/39.692/IBM – Maintenance services
http://www.jukkarannila.fi/lausunnot.html#nro_32

EN: Opinion 34: REMIT Registration Format
http://www.jukkarannila.fi/lausunnot.html#nro_34
NOTE: Organised by The Agency for the Cooperation of Energy Regulators (ACER) [9]

EN: Opinion 35: Exploiting the employment potential of the personal and household services
http://www.jukkarannila.fi/lausunnot.html#nro_35

EN: Opinion 37: CASE COMP/39.654 - Reuters instrument codes
http://www.jukkarannila.fi/lausunnot.html#nro_37

EN: Opinion 39: Registry options to facilitate linking of emissions trading systems
http://www.jukkarannila.fi/lausunnot.html#nro_39

EN: Opinion 40: Media Freedom and Pluralism / audiovisual regulatory bodies
http://www.jukkarannila.fi/lausunnot.html#nro_40

EN: Opinion 41: AT.39398: observations on the proposed commitments
http://www.jukkarannila.fi/lausunnot.html#nro_41

8 http://www.cen.eu/ (Accessed 2 July 2012)
9 http://www.acer.europa.eu/ (Accessed 2 July 2012)

EN: Opinion 42: Opening up Education
http://www.jukkarannila.fi/lausunnot.html#nro_42

EN: Opinion 43: Publication of extracts of the European register of market participants
http://www.jukkarannila.fi/lausunnot.html#nro_43
NOTE: Organised by The Agency for the Cooperation of Energy Regulators (ACER)

EN: Opinion 44: Evaluation policy guidelines
http://www.jukkarannila.fi/lausunnot.html#nro_44

EN: Opinion 45: About ICT standardisation
http://www.jukkarannila.fi/lausunnot.html#nro_45

EN: Opinion 46: Review of the EU copyright rules
http://www.jukkarannila.fi/lausunnot.html#nro_46

EN: Opinion 51: European Area of Skills and Qualifications
http://www.jukkarannila.fi/lausunnot.html#nro_51

EN: Opinion 52: Trusted Cloud Europe Survey
http://www.jukkarannila.fi/lausunnot.html#nro_52

EN: Opinion 53: Trade Reporting User Manual (TRUM) (Draft)
http://www.jukkarannila.fi/lausunnot.html#nro_53
NOTE: Organised by The Agency for the Cooperation of Energy Regulators (ACER)

EN: Opinion 55: European Energy Regulation
http://www.jukkarannila.fi/lausunnot.html#nro_55
NOTE: Organised by The Agency for the Cooperation of Energy Regulators (ACER)

EN: Opinion 59: Green paper on mobile Health
http://www.jukkarannila.fi/lausunnot.html#nro_59

EN: Opinion 60: Cross-border inheritance tax problems within the EU
http://www.jukkarannila.fi/lausunnot.html#nro_60

EN: Opinion 61: European Register of Products Containing Nanomaterials
http://www.jukkarannila.fi/lausunnot.html#nro_61

EN: Opinion 64: Corporate Social Responsibility - European Commission
http://www.jukkarannila.fi/lausunnot.html#nro_64

EN: Opinion 66: Net Innovation for the Work Programme 2016-2017
http://www.jukkarannila.fi/lausunnot.html#nro_66

EN: Opinion 68: European Network Code Stakeholder Committees
http://www.jukkarannila.fi/lausunnot.html#nro_68
NOTE: Organised by The Agency for the Cooperation of Energy Regulators (ACER)

EN: Opinion 71: Common Schema for the Disclosure of Inside Information
http://www.jukkarannila.fi/lausunnot.html#nro_71
NOTE: Organised by The Agency for the Cooperation of Energy Regulators (ACER)

EN: Opinion 74: Enabling the Internet of Things
http://www.jukkarannila.fi/lausunnot.html#nro_74
NOTE: Organised by Body of European Regulators for Electronic Communications (BEREC) [10]

EN: Opinion 80: Mandatory Transparency Register
http://www.jukkarannila.fi/lausunnot.html#nro_80

EN: Opinion 84: Revision of the European Interoperability Framework
http://www.jukkarannila.fi/lausunnot.html#nro_84

EN: Opinion 86: 2016 Annual Colloquium on fundamental rights
http://www.jukkarannila.fi/lausunnot.html#nro_86

EN: Opinion 88: Evaluation and Review of the ePrivacy Directive
http://www.jukkarannila.fi/lausunnot.html#nro_88

EN: Opinion 89: BEREC Guidelines for net neutrality rules
http://www.jukkarannila.fi/lausunnot.html#nro_89
NOTE: Organised by Body of European Regulators for Electronic Communications (BEREC)

EN: Opinion 93: Safety of apps and other non-embedded software
http://www.jukkarannila.fi/lausunnot.html#nro_93

EN: Opinion 95: Targeted consultation on eForms
http://www.jukkarannila.fi/lausunnot.html#nro_95

EN: Opinion 97: COM(2016) 882 final - 2016/0408 (COD)
http://www.jukkarannila.fi/lausunnot.html#nro_97

EN: Opinion 98: Opinions related to six (6) co-decision (COD) proposals
http://www.jukkarannila.fi/lausunnot.html#nro_98

EN: Opinion 99: COM(2016)0863 - European Union Agency for the Cooperation of Energy Regulators. Recast
http://www.jukkarannila.fi/lausunnot.html#nro_99

10 http://www.berec.europa.eu, Body of European Regulators for Electronic Communications (BEREC)

EN: Opinion 100: Protection of personal data (EU)
http://www.jukkarannila.fi/lausunnot.html#nro_100

EN: Opinion 101: Governance of the Energy Union
http://www.jukkarannila.fi/lausunnot.html#nro_101

EN: Opinion 102: Smart Wearables
http://www.jukkarannila.fi/lausunnot.html#nro_102

EN: Opinion 106: Review of the European Union Agency for Network and Information Security (ENISA)
http://www.jukkarannila.fi/lausunnot.html#nro_106

EN: Opinion 108: Single Digital Gateway
http://www.jukkarannila.fi/lausunnot.html#nro_108

EN: Opinion 110: Technical arrangements / Information systems / Union Customs Code
http://www.jukkarannila.fi/lausunnot.html#nro_110

EN: Opinion 111: Interoperability of information systems for migration and security
http://www.jukkarannila.fi/lausunnot.html#nro_111

EN: Opinion 113: Transform of health and care
http://www.jukkarannila.fi/lausunnot.html#nro_113

EN: Opinion 114: Premium content on ECS markets and the effect of devices on the open use of the Internet
http://www.jukkarannila.fi/lausunnot.html#nro_114
NOTE: Organised by Body of European Regulators for Electronic Communications (BEREC)

EN: Opinion 118: Fake news and online disinformation
http://www.jukkarannila.fi/lausunnot.html#nro_118

EN: Opinion 119: European Social Security Number
http://www.jukkarannila.fi/lausunnot.html#nro_119

EN: Opinion 120: European Labour Authority
http://www.jukkarannila.fi/lausunnot.html#nro_120

EN: Opinion 121: 2nd Data Package
http://www.jukkarannila.fi/lausunnot.html#nro_121

EN: Opinion 122: Proposal to create a cybersecurity competence network with a European Cybersecurity Research and Competence Centre
http://www.jukkarannila.fi/lausunnot.html#nro_122

EN: Opinion 123: Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the re-use of public sector information (recast)
http://www.jukkarannila.fi/lausunnot.html#nro_123

EN: Opinion 125: Security of identity cards of Union citizens and of residence documents
http://www.jukkarannila.fi/lausunnot.html#nro_125

EN: Opinion 128: Summertime arrangements
http://www.jukkarannila.fi/lausunnot.html#nro_128

EN: Opinion 129: Format for a European Electronic Health Record (EHR) Exchange
http://www.jukkarannila.fi/lausunnot.html#nro_129

EN: Opinion 132: Informative guidance on the Regulation on the Free flow of non-personal data
http://www.jukkarannila.fi/lausunnot.html#nro_132

EN: Opinion 133: standard forms for the publication of notices in the field of public procurement ("eForms")
http://www.jukkarannila.fi/lausunnot.html#nro_133

EN: Opinion 134: Update Implementing act on technical arrangements for the systems defined by UCC
http://www.jukkarannila.fi/lausunnot.html#nro_134

EN: Opinion 139: Information management system for official controls Regulation (IMSOC)
http://www.jukkarannila.fi/lausunnot.html#nro_139

EN: Opinion 141: Farm Accountancy Data Network
http://www.jukkarannila.fi/lausunnot.html#nro_141

EN: Opinion 142: Horizon Europe (two consultations)
http://www.jukkarannila.fi/lausunnot.html#nro_142

EN: Opinion 144: Digitisation and online access of cultural material and digital preservation (evaluation)
http://www.jukkarannila.fi/lausunnot.html#nro_144

EN: Opinion 146: Draft CWA by the CEN/WS - Journalism Trust Initiative
http://www.jukkarannila.fi/lausunnot.html#nro_146
NOTE: Organised by the European Committee for Standardization (CEN)

EN: Opinion 147: EU customs procedures - developing and upgrading electronic systems
http://www.jukkarannila.fi/lausunnot.html#nro_147

EN: Opinion 152: Revision of the Non-Financial Reporting Directive
http://www.jukkarannila.fi/lausunnot.html#nro_152

EN: Opinion 154: Strengthen the exchange of information framework in the field of taxation
http://www.jukkarannila.fi/lausunnot.html#nro_154

EN: Opinion 156: Elements of the data for "ICT usage and e-commerce" for the reference year 2021
http://www.jukkarannila.fi/lausunnot.html#nro_156

EN: Opinion 159: EU competition law - market definition notice (evaluation)
http://www.jukkarannila.fi/lausunnot.html#nro_159

EN: Opinion 161: New Competition Tool ('NCT')
http://www.jukkarannila.fi/lausunnot.html#nro_161

EN: Opinion 162: Digital Services Act package: ex ante regulatory instrument of very large online platforms acting as gatekeepers
http://www.jukkarannila.fi/lausunnot.html#nro_162

EN: Opinion 165: Legislative framework for the governance of common European data spaces
http://www.jukkarannila.fi/lausunnot.html#nro_165

EN: Opinion 166: Sharing information between national business registers
http://www.jukkarannila.fi/lausunnot.html#nro_166

EN: Opinion 167: Interoperable digital public services - European Interoperability Framework evaluation & strategy
http://www.jukkarannila.fi/lausunnot.html#nro_167

EN: Opinion 169: Fighting child sexual abuse: detection, removal and reporting of illegal content online
http://www.jukkarannila.fi/lausunnot.html#nro_169

EN: Opinion 170: Data sharing in the EU - common European data spaces (new rules)
http://www.jukkarannila.fi/lausunnot.html#nro_170

EN: Opinion 172: Guidance on tackling disinformation (update)
http://www.jukkarannila.fi/lausunnot.html#nro_172

EN: Opinion 173: Declaration of Digital Principles
http://www.jukkarannila.fi/lausunnot.html#nro_173

EN: Opinion 174: Data Act (& amended rules on the legal protection of databases)
http://www.jukkarannila.fi/lausunnot.html#nro_174

## ANNEX 2

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