Technology Principles

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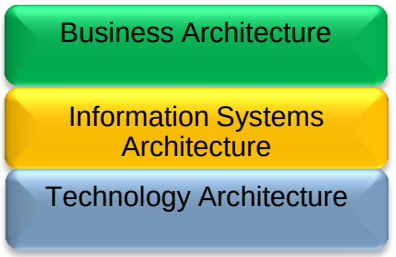
Principles for changing principles

1. Principles must reflect strategic targets of Nordea and change pressures: New Normal, RAIT …

2. Principles need to be re-formulated keeping re-use in mind and keeping changes reasonable and justified

3. Logical order of priority for the principles should reflect architecture planning (TOGAF) cycle

4. Scope of principles is more than technology, but proposal is to keep current naming due limitation in data/information/processes/…



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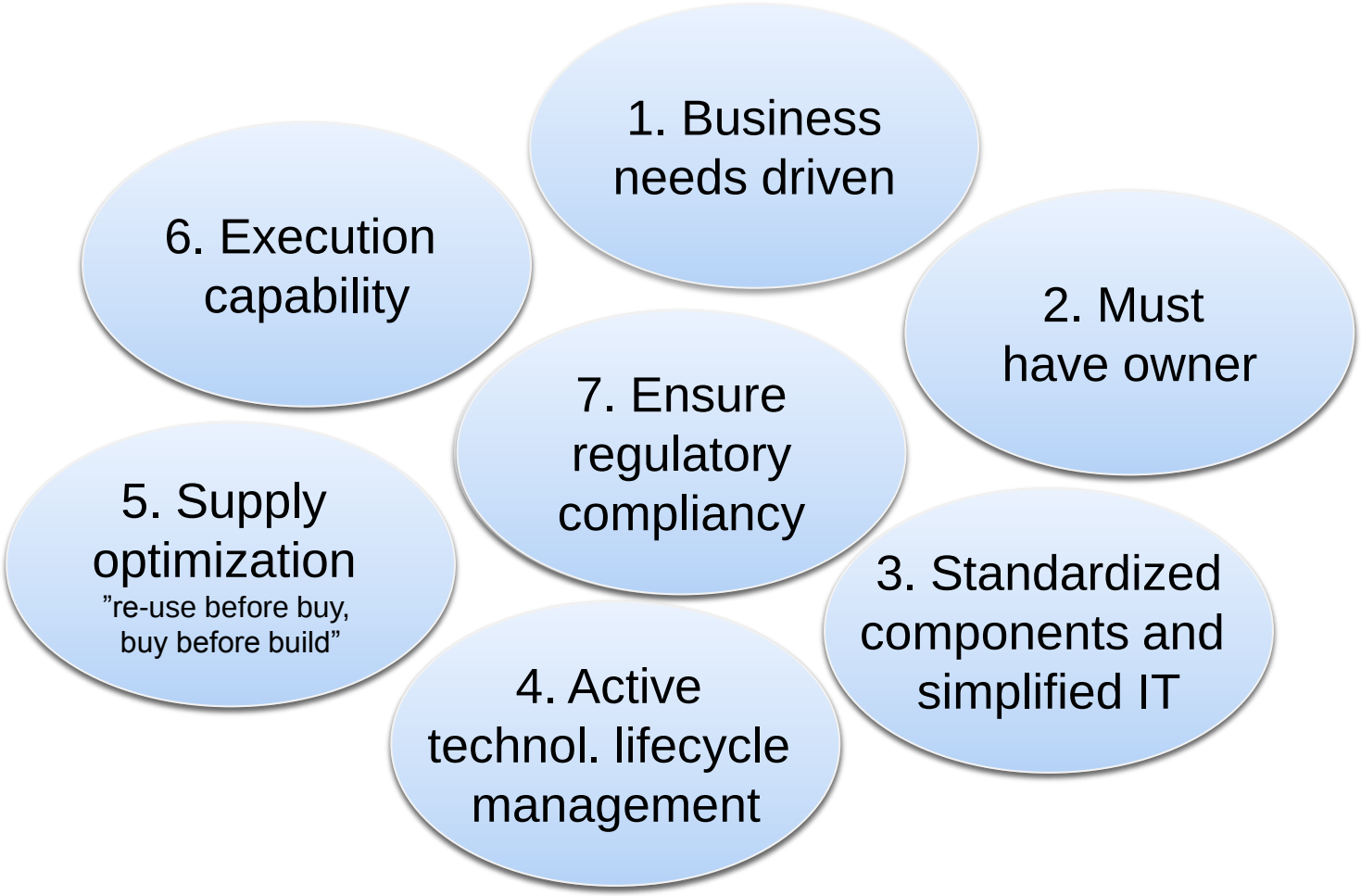
Technology principles



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Key change from v1.4 to v.15

	Old Technology Principles	Mandatory
1	All IT initiatives MUST aim at fulfilling business needs	Yes
2	Ownership MUST be clearly defined for all IT solutions	Yes
3	Reduce complexity and cost through simplification and standardization.	Yes
4	Lifecycle of components SHALL be continuously managed; new technologies actively adapted and non-current technologies retired	Yes
5	Reuse before buy, buy before build	Yes
6	Execution capability MUST be ensured throughout the solution life-cycle	Yes
7	Ensure regulatory compliancy	Yes

New

The order of the principles per TOGAF cycle

Mandatory

Principle 1: All IT initiatives MUST aim at fulfilling business needs

Statement: All IT initiatives in Nordea MUST **deliver value** for the business by creating the foundation for new business initiatives and/or by making existing IT solutions more efficient.

Rationale: This principle ensures that only the right IT initiatives are started, thus contributing to a higher efficiency in both business and IT development.

Implications
A joint planning process involving business and IT of all IT initiatives MUST be in place.
Technology choices SHALL be ~~are~~ derived from Business IT Strategies.

Explaining Principle 1

- This principle answers to question what & why: Initiatives MUST deliver measurable business benefits to its receiver
- Meeting the business needs will be best secured with joint planning, and vice versa also business inviting IT to strategy creation (how).
- Despite of the business needs driven initiatives or joint planning, even the greatest initiatives can fail. To minimize that risk we MUST have also other principles

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Mandatory

Examples for principle 1

- Each element of the architectural design or existing solution architecture SHOULD be justified using a reason or a benefit model. The justification MUST be based on business driver, infrastructural requirement, architectural rule.

- Justification SHOULD be considered in the following order of priority: 1) cross domain and domain strategy, 2) projects portfolio roadmap, and 3) individual project.

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Mandatory

Principle 2: Ownership MUST be clearly defined for all IT solutions

Statement: Any IT solution (incl. infrastructure) MUST have a provider and receiver.

Rationale: This SHALL ensure that service delivery responsibility is clear, the responsibility for costs and the accountability for changes are defined.

Implications
Any change of a solution or technology supporting the solution MUST be aligned with the owner of solution.
Infrastructure initiatives that benefit more than one business area SHALL be managed across business areas.
Open Source products MUST also have a provider and receiver.

Explaining Principle 2

- All solutions MUST have a clearly defined provider, not only during solution creation, but also during the whole life-cycle. This also implies that business solutions using common IT platforms MUST have equally defined ownership in place.
- Infrastructure initiatives benefitting multiple businesses MAY NOT have to be managed by Group IT. Essential is fulfilling internal customers' needs
- Open Source components can bring significant cost savings, but MUST have a solid supplier. Open source MUST have a reliable, established, and financially stabile supplier company.

Mandatory

Principle 3: Reduce complexity and cost through standardization and simplification

Statement: IT MUST contribute as well to improved reliability as to cost effectiveness , by simplifying the number of systems, by supporting uniform concepts, processes and products, and by coordinating competences, and rationalizing number of sourcing partners and suppliers.

Rationale: The simplification and harmonisation of the IT systems portfolio is absolutely crucial in order to substantially reduce cost and also to ensure stability. Further it will lead to lower development and maintenance cost for IT systems & better utilization of competencies and managing the retirement of old technologies. To keep our IT landscape competitive, and development/change costs reasonable, we SHALL define solutions from components.

Implications
Solutions MUST be built from well defined, reusable, and interoperable components in order to improve time to market.
Standardized components: concepts, data, processes, applications, infrastructure, platforms, and interfaces SHALL be preferred.
We SHALL limit the number of technologies used to a reasonable level. Where possible existing country or division specific solutions SHOULD be replaced with common Nordea solution.
OPTIONAL: When defining new IT solutions, multi-channel accessibility MUST be evaluated where relevant, and MUST influence the solutions design.

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Mandatory

Explaining Principle 3

- Simplification and harmonization MUST NOT be understood only as a cost issue, but will equally apply to amount of suppliers (keep 2nd source in mind)
- Both simplicity and standardization are needed: IT becomes very complex unless we simplify it. By splitting solution into smaller silos, we MAY simplify it, but we MUST also standardize technologies between silos to control costs.
- Standardization, consolidation, or legacy system removal SHOULD be used as means to cut costs. Standardization MAY range from procurement volume benefits to common business processes across the organization.
- Componentised solutions lead to easier consolidation, integration and adoptions cross-border challenges.
- Principle 3 SHALL NOT exclude the use of newer technology, nor does it force to select old suppliers. Often new technology SHALL give faster and more flexible solution to fulfil business requirements. *(see also Principle 4)*
- Note: *Yellow or amber* technology can be a part of *green* solution, in particular if technology is embedded, but also if it is an essential part of the solution (e.g. Exchange + MS SQL)

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Principle 4: Lifecycle of components SHALL be continuously managed; new technologies actively adapted and non-current technologies retired

Statement: Nordea operates in continuously changing business landscape. To be competitive in this landscape, the IT solutions lifecycle MUST be actively managed to support business opportunities with competitive benefits. We use existing components, but where relevant, we SHALL introduce new technologies, and actively retire non-current technologies and components.

Rationale: Active Life cycle management of the technologies and solution components allows cost optimized introduction of new and timely retirement of non-current technologies: by active scouting of the emerging technologies and continuous evaluation of our current technology portfolio

Implications
Lifecycle of the solution components / technologies MUST be managed. We SHALL prefer well tested and fit-for-purpose technologies in order to deliver reliable solutions.
IT SHALL continuously improve and evaluate new and existing technologies to be ready to support them, when business need raises, and to promote technology opportunities to business.
Replaced systems and no-longer-in-use-technology SHALL be de-commissioned. Technologies in phase-out (red or amber) MUST have a migration plan made with Business.

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Mandatory

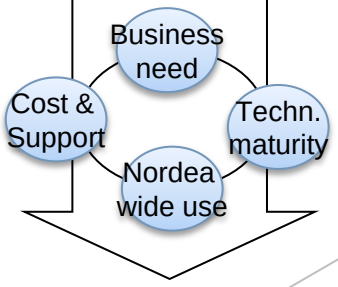
Explaining Principle 4

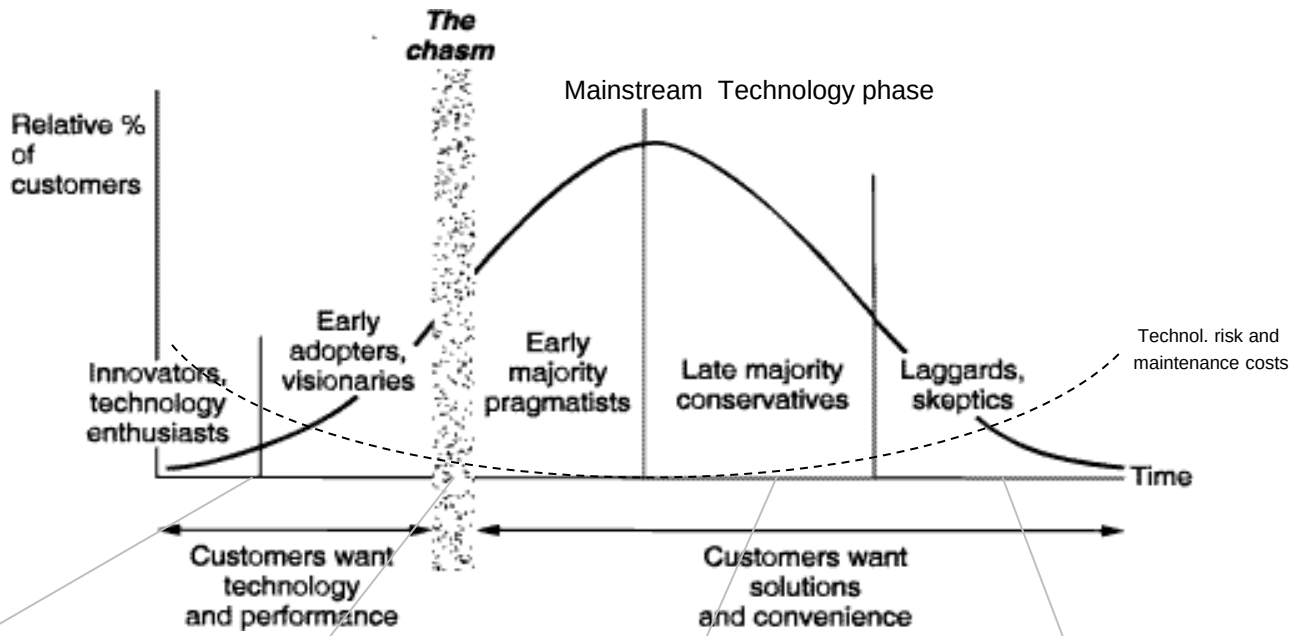
- We MUST respond fast to business needs by evaluating new technologies of significant advantage, and prepare for the introduction of those should the business need raise. Once introduced, those become new components.
- All IT solutions will have a limited lifespan. Keeping solutions up-to-date does not happen without cost and these costs will raise over time. Once decided, solution ramp-down MUST have a transition plan to minimize risks.
- Business needs drive the changes in our IT landscape, but the continuous change MAY easily lead to complex and highly fragmented IT. To keep our IT landscape competitive, and development/change costs reasonable, we SHALL define solutions from components. These components MUST offer cost or other business benefits, be well tested and reliable, and SHOULD preferably be used industry wide.
- Principle #4 is equally valid for in-house developments as for replacing existing developments: *In-house developments* MUST be evaluated and improved over time (implies need to define a performance metric).
- Note: Tactical ”*yellow” or “amber“* technology can be a part of strategic ”*green”* solution, in particular, if technology is embedded, but also essential part of the solution (e.g. Exchange with MS SQL)

Nordea Technology adaptation process steps

Industry wide tech. adaptation

Adaptation in Nordea





Ph.1: Eval.	Phase 2: Innovate	Phase 3: Harvest	Ph. 4:Re-eval./Maintain	Phase 5: Retire/replace
- High technol., commercial, & support risks - Only in truly exceptional cases - Entry plan must exist	- Technology risk still high (conscious risk taking) - Despite of benefits, biz success uncertain - Knowledge bottleneck - Only for strong biz need, e.g. urgent security tools - Actively to evaluate	- Technol. is or becoming the mainstream choice - Recommended technol. - Future proof for re-use - Secure competence - Note: country or division specific "local" tech. are not automatically green	- Technol. maintained, no reuse: only w/ exemption - We test existing technol. when to change/migrate - Support costs increase - New techn. may also belong to this category - Risk mitigat. plan (opt.)	- Technology not for use, developments or re-use - Red technol. in use must have a migration plan and risk mitigation plan - Exit schedule exists and plans must be budgeted
Red	**Yellow**	**Green**	**Amber**	**Red technology**

Mandatory

Principle 5: Reuse before buy, buy before build

Statement: When establishing new IT solutions as much of the existing portfolio as possible MUST be reused. Where this is not an option, solutions SHOULD be bought from 3rd party vendors. Only where no solutions matching the business needs can be found, IT MAY build solutions.

Rationale: This approach ensures both cost effectiveness by leveraging existing solutions - reuse, and high quality - utilising the expertise of the market place.

Implications
The investment in the current system and technology portfolio SHOULD be leveraged - as much as possible = reuse.
In buying we SHALL prefer Commercial Off The Shelf products that can be made re-usable in our portfolio
Nordea IT development and maintenance MAY be multi-sourced - internal solutions, outsourcing, joint-ventures.
In outsourced developments Nordea MUST own IPRs.
Re-use is limited only to future proof ”green” technologies, while “red” technology is not for re-use, and yellow or amber technology only with exemption.

Mandatory

Explaining Principle 5

- Nordea is a bank, not a software vendor. For all the developments we MUST try re-use first, then buying, and only then we consider development
- While buying, we prefer commercially available ready-made solutions (COTS) for the time to market, solution maintenance and cost benefits.
- We also consider what is the best option for the delivery and business model. Examples of such alternatives are internal solutions, outsourcing, joint-ventures, as a service delivery among others.
- Intellectual Property Rights (IPR) are not limited to source code, when outsourcing internal development. Developer environments, designs, data itself, test scenarios, best practices hold significant IPR value too.

Mandatory

Principle 6: Execution capability MUST be ensured throughout solution life-cycle

Statement: IT resources and competences MUST be ensured to deploy and maintain any established or purchased IT solution in Nordea.

Rationale: This is to make sure that Nordea is in a position to use, manage and support the introduced solution.

Implications
IT MUST be involved before any acquisition or sourcing of IT solutions is made. This SHALL ensure integration, reliable production and reuse. Business SHALL involve IT to plan requested functionality or resolve problems
IT MUST provide competencies required to support strategic platforms and technologies. IT SHALL involve Business in joint definition of strategic platforms and technologies
Solutions on non-strategic platforms and technologies MUST consider alternative support options (incl. sourcing). Maintenance plans MUST be in place before implementing non-strategic solutions.
Introducing new solutions/ technology to Nordea MUST includes a development plan for necessary skills and competencies.
No technology SHOULD be chosen just because of the availability of internal competencies.
Life-cycle expectancy MUST always be considered. IT SHALL provide active life-cycle management of IT solutions including infrastructure to ensure reliable business processes.
Legal and risk compliance requirements MUST always be complied with

Explaining Principle 6

- Securing execution capability & business continuity throughout the solution life cycle is a high priority to us due to the nature of our business.
- Nordea MUST to have full control of the strategic solutions and technologies in IT. Non-strategic solutions are preferably outsourced to suppliers, but arrangements must include maintenance arrangements.
- We SHOULD try to maximize the solution benefits and fit for Business needs by having regular two-way dialog between Business and IT.
- All solutions and technologies have a limited life-cycle. We MUST manage it from the initial planning, through the changes, and finally the timely removal.
- Having a team specialized to a certain technology, is only one criteria in technology evaluation, but not only. When business requires, we SHALL migrate to another technology and acquire new skills (e.g. by learning).

Mandatory

Principle 7: Ensure regulatory compliancy

Statement: Enterprise information management processes must comply with all relevant laws, policies and regulations.

Rationale: The regulatory change agenda is under continuous development and affects Nordea's analytical and reporting processes. Regulatory changes will drive changes in our processes and applications. Breach of laws or regulations may lead to significant fines or even to the loss of the banking license in the worst case.

Implications
All development efforts must follow the Nordea Information Security Instructions. All applications must be designed to meet the regulatory requirements.
This principle has also wider internal implication. It is not only limited to the externally defined laws, policies or regulation, but internal directives, policies and instructions are equally mandatory to comply with.

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Thank you!