Enterprise Architecture Governance

White Paper

April 2008

1 Executive Summary

Enterprise Architecture includes 2 parts :

- It describes how an Enterprise **Operates** to create products, manufacture them, sell them and deliver related Services: **Actors** (Persons and Computers grouped inside an Organization) execute Operation **Actions** (Processes, Activities and Functions) with required **Informations** (Product, Client, Contract).
- It also describes how the Enterprise **Transforms** itself: other **Actors** (Deciders, Business Analysts, Developers, Architects) execute Transformation **Actions** (decision making, project management, Training, Deployment, Maintenance) with required Informations (Strategy, requirements, planning, components, Delivered Model).

Most of Enterprise **strategic decisions** involve **Enterprise Architecture**: agility and time to market, productivity, capacity to better understand the Customer and extend its services, reduction of useless complexity, synergies between Companies of the same Group… all require Transformations in Organization, Processes, Master Data management, human resource management, Information Systems, technologies and methodologies.

But this is a difficult path which requires long-term vision, courage and energy. Sharing and Reuse are part of this vision; they are difficult to implement and accept, but their benefits enhance agility and profitability.
As Machiavelli wrote in « The Prince » in 1500: “The person who decides to change a System must know that people who benefited from the old system will be against him, and the people who will benefit from the new system will not help him”. When you Transform a system, you are alone. You cannot afford to take bad decisions, thus you must establish good **EA Governance** rules.

Governance is the **art of making important decisions** which means preparing decisions, communicating about decisions, following up decisions and checking results.

This is not an easy task: so we explain the 10 main Enterprise **concerns** and try to give some **answers:**

1. How to align Business Strategy and EA Governance?
2. How to make comprehensive decisions which include Organization, Processes, IT and HR?
3. How to explain EA to executives?
4. How to ensure consistency and save time when many decisions have to be taken?
5. How to execute Enterprise Synergy?
6. How to define the right level of synergy in a Company or a Group?
7. How to increase agility?
8. How to check results of decisions?
9. How to protect long-term decisions from current decisions?
10. How to increase innovations?

Among the most important proposed answers which will be developed inside this document:

- Separate Operation Teams and Transformation teams
- Centralize Business Architects and IT Architects into a **unique Architecture team**.
- Reuse the same Enterprise Representation for all stakeholders
- Promote innovations and support risks

We then describe Main **decisions processes** and their relations with **Committees**. It all starts with decision on Target Model aligned with Enterprise strategy and global Road Map. Then we group Solution Project decisions and Architecture Project Decisions into 2 different main Processes. And we describe the roles of the 3 main Decision Committees.
As large Groups of Companies are the most difficult to Govern, we give some complementary elements to help EA Group Governance.
Finally, we list some answers to **Frequently Asked Questions**.

The task being huge, CEISAR made use of previous works already done: **Enterprise Modeling** which formalizes how an Enterprise is Operated and Transformed based on Business Strategy, and **Enterprise Organization** which presents some organization scenarios.

2 Objectives and definitions

2.1 The context

Everyone agrees on the fact that IT influence on Enterprise Operations has grown progressively over these last decades to deeply impact business opportunities, agility, productivity, security…
To summarize the evolution observed during the last decade, we can consider that Enterprises went through several steps:

2.1.1 Step 1 "Indifference"

IT is used just for high volume and simple operations like invoicing, payments, accounting or payroll.
Business Management thinks that IT is obscure, uninteresting and marginal. They prefer to spend time on what is important, namely Strategy, Finance, R&D, Sales, Marketing, Sales, and Organization.

2.1.2 Step 2 "Solution alignment"

IT use is growing. Each Business Unit takes advantage of decreasing hardware costs to automate more complex processes like:

- Processes for Providers: contracts, orders
- Processes for Production: manufacturing processes
- Processes for Customers: contracts, delivery of Goods or Services

Some initiatives are very positive, but IT becomes progressively more costly.
Management gets involved in decisions which are made **Solution by Solution,** ROI is a key factor and Productivity is the main driver.
Deciding one Solution for one set of Requirements is not so difficult and involves only the Solution Unit.
But when Budget is restricted, the decision is more complex because priorities must be decided on a **portfolio of Projects**. This is the first case in which Governance must be formalized.

2.1.3 Step 3 "Enterprise vision".

But a set of individually optimized Solutions does not produce an optimized system. Some important questions cannot be easily answered, such as:

- **Customer-centric system**: how to offer a global view for a customer?
- **Time to market**: is the System able to support new products faster than competitors?
- **Extended Enterprise** and Usage of the **Internet** by partners, providers and customers: How to connect new distribution networks? How to manage end to end processes? How to offer new customer services through the Web? Is the System able to offer Internet applications faster than competition?
- **Acquisition** of a new company: is the System able to adapt to the new company?
- **Productivity**: is the System able to adapt to new optimized processes?
- **Employee mobility**: does standard usage of Solutions allow for increased productivity and ease of employee mobility between Units?

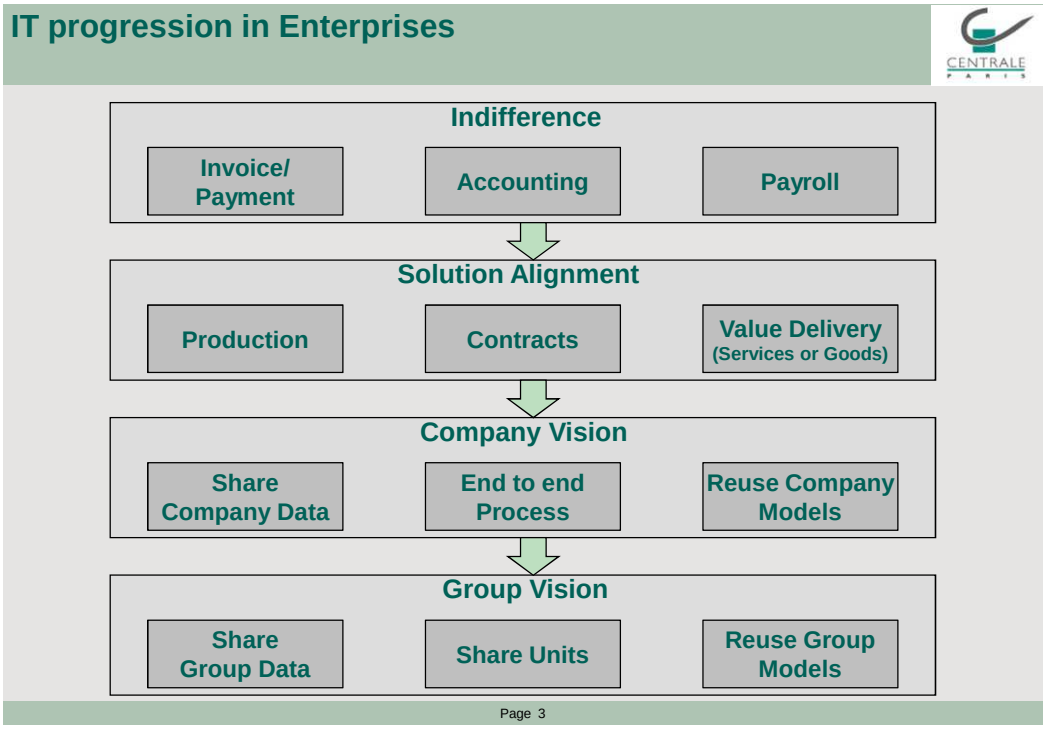
So, efforts are made to Integrate or Standardize the Enterprise (see "Enterprise Architecture as Strategy" by Jeanne W.Ross, Peter Weill and David C.Robertson).
Integration means shared data, like customer data or product data.
Integration is only possible if Business Units agree on an Information Model, or on a shared IT infrastructure able to give access to **shared data**.
Integration also means that information sharing via **exchanges** between independent Solutions must be **shared** to manage **End to End Process** without discontinuity.
Standardization means reuse of same Process Models in different Business Units of the same Enterprise.

Standardization means that different Business Units reuse the same Process Model (including Software) on a reused IT configuration.
Integration together with Standardization allows optimization of Operations by transferring Business Unit actions to Centralized Units like a Call Center, a Procurement Unit, or an IT Operation center.
All these decisions are not simple and are cross-Business Units. The top management must be involved in complex decisions which involve: Process definition, information model, IT technology, organization definition of new Roles, Transformation teams, HR resources. It goes beyond IT, it is **Enterprise Architecture** (EA).
To help make these complex decisions a **Company EA Governance** must be defined.

2.1.4 Step 4 "Group vision"

Groups composed of several Companies search to increase synergies between their companies.
Globalization means global services to customers, product standardization, and similar processes.
For Groups, the difficulty is to define the right balance between subsidiarity, decentralization, autonomy and mutualization, centralization, autonomy according to the Group Strategy.
Decisions become more complex because the scope is much larger, because it is very difficult to justify return on investments and because cultural differences make synergy difficult.
Group EA Governance is thus necessary to facilitate decisions at Group level.

So EA Governance has progressively become a key topic in all Enterprises: EA must be governed as all important assets of the Enterprise are governed.



2.2 Objectives of this document

CEISAR has already delivered 2 White Papers which will help define Governance:

- the **CEISAR Enterprise Architecture Representation** describes how an Enterprise Operates and how it transforms itself.
- the **CEISAR Organization Model** defines different Enterprise Organizations.

In this document, CEISAR

1. delivers a comprehensive EA **Governance model**
2. proposes some **guidelines** to help improve present Governance processes

The guidelines are also summarized in an **Governance summary**.

2.2.1 The CEISAR Governance model

The CEISAR Governance model helps to classify Decisions, to attribute them to the right Decider. It includes main **Governance Processes** and main **Decision Committees**.
The Governance Model reuses the CEISAR Enterprise Representation and the CEISAR Organization Model.
The Governance Model can be used:

- by Enterprises to build EA Governance when it does not yet exist, and compare their Governance with other Enterprises
- by CEISAR or other training entities, to deliver training to students or professionals

It also helps to identify which Governance Domains have been overlooked in an Enterprise.
The CEISAR Governance Model does not aim to replace detailed descriptions of Governance Processes as defined in TOGAF or COBIT, it simply describes the most important Governance elements to be communicated by training.

2.2.2 The Guidelines

- How to align Business Strategy and EA Governance?
- How to make comprehensive decisions which include Organization, Processes, IT and HR?
- How to explain EA to executives?
- How to ensure consistency and save time when many decisions have to be taken?
- How to execute Enterprise Synergy?
- How to define the right level of synergy in a Company or a Group?
- How to increase agility?
- How to check results of decisions?
- How to protect long-term decisions from current decisions?
- How to increase innovations?

2.3 What is Governance?

Now that we all agree on the necessity of Governance, we must define its scope more precisely:

- Governance is the art of making important decisions
- EA Governance is how to decide and not how to do

We must go into more detail for each of these principles which define a clear scope for EA Governance.

2.3.1 Governance is the art of making important decisions.

It implies clearly formalizing everything which participates in the decision so that to guarantee the quality and the accountability of the decision:

- **Classify** decisions
- Define **who** (person or committee) decides, depending on decision Classification, Roles, Rights and Duties
- What must be **prepared** based on tangible elements to help Deciders, which describe value for Enterprise stakeholders (Stock holders, Customers, Employees, and Government Units)?
- How to **formalize** the decision (level 1 decision)?
- How to **confirm** the decision (level 2 decision)?
- How to ensure that the decision is **consistent** with other decisions (like Architecture Compliance)?
- How to **check** that results fit with indicators defined at decision time?

2.3.2 Governance is how to decide and not how to do.

Governance focuses on **how** to make **important decisions**.
“How” means description of **Governance Processes** and of **who** is involved (people or committees).
“Important decisions” means that Governance formalization must be applied only for important decisions like:

- Deciding a global road map
- Deciding a new Solution Project
- Deciding a new Architecture Project

Governance is **not how to do**. Example of what is not Governance:

- How to **define** common Business Entities
- How to **define** main Processes

This is why we suggest not using the word Governance for things like “Methodology Governance”, “SOA Governance”… We prefer to use the term “**Solution governance**” for Solution decisions and “**Architecture Governance**” for that which groups all decisions transversal to Solution decisions.
Architecture Governance will have to decide for “Methodology decisions”, “SOA decision”, “Security decisions”…

2.3.3 Governance does not replace belief

Many important decisions have been taken by Managers without a formalized decision process. Their intuition, their experience, their ambition stimulate fast decisions which are formalized afterwards to explain the logical motivations. As some people say “strategy is what is described after the fact”. But the complexity of large Enterprises requires more formalization than before, even if some decisions will still be taken based on the executive’s belief.

2.4 How did CEISAR proceed?

The sponsors required that the CEISAR focuses on EA Governance.
To produce this document, CEISAR:

- **Observed** best practices with all sponsors and asked for main Governance concerns
- Gathered Information on Governance **Standards** such as:
  - CISR (MIT Sloan School of Management)
  - Cobit
  - Togaf
- CEISAR then built a **reference governance model** to help compare Governance between the different Enterprises. This Governance Model is based on the Enterprise Model and the Organization Model (see other white papers). The Governance model lists main **Governance Processes** and **Decision Committees**
- From lists of **concerns** established by Sponsors, CEISAR defined **guidelines** to improve Governance.

In this document we will follow the following plan:

- First, summarize main concerns and guidelines
- Then, describe the Governance Processes and Committees. As EA Governance for a Group of Companies is more difficult than for a single Enterprise, we will start by describing the simple case of the single Enterprise, and then describe the more complex case of the Group made up of Companies.
- Lastly, we will answer certain questions which were discussed between us and our sponsors.

We would particularly like to thank:

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- **Total**: Lionel Pequignot, Yves Raillard

(the contents of CEISAR white papers are written under the responsibility of CEISAR: Sponsors may have different opinions on some topics).

3 The main concerns and guidelines

Many rules have been largely accepted by most Companies, such as: “Align IT decisions with business strategy”, or “Check decisions based on quantified objectives”. Many books, white papers or press reviews have formalized these accepted rules. We preferred to focus on topics which are not so obvious, and to propose EA Governance Guidelines to help Enterprises improve their governance processes.

3.1 How to align Business Strategy and EA Governance?

Strategic business Orientations are decided through **Corporate Governance.**
For example, Corporate Governance takes care of decisions on:

- Which Business trends? Which product, customer segments, territory?
- Merging and acquisitions
- Partnership for Distribution or Production
- Centralization/Decentralization Policy
- Which performance target? Profit, time to market, growth, service quality, security…
- Which Organization trends? More employee polyvalence, more work done by external Business Actors, more outsourcing
- Which performance target?

Once decided, they are used as input by “EA Governance”.
EA Governance focuses how the Enterprise is **Operated** and how the Enterprise is **Transformed**.

There is a debate today on interactions between Strategy and EA. Most people think that Strategy is defined first, and EA is a consequence of Strategy. Other think that this model works in a stable world, but that in the present unstable world a strategy is very difficult to establish, life cycle is much longer for EA than for Strategy, and the Strategy could be simplified to “Define the EA which allows my Enterprise to move faster than my competitors, each time I decide a new strategic orientation”. It all comes down to one of the key Enterprise concerns which is **Agility**.
A balanced answer could be to classify strategic topics into 3 levels:

3.1.1 Long-term strategy is translated into Architecture

“Enterprise Architecture” describes how the Enterprise Operates and Transforms itself. “Architecture” is the EA part which describes **Shared** and **Reused** elements.
Long term strategic trends are structural changes which impact Architecture. For example:

- **Centralize** a Unit (like Procurement, Call Center or IT Operation Center and support) requires to reuse the same Model.
- Improve **Agility** requires to improve Transformation Process and tools, or to reuse same Functions
- Share **Mater Data** like Customer Information requires to define and reuse same Business concepts, same data Model, same Data Access Functions.
- Standardize **Worker Interfaces** requires to deliver user interface reusable components
- Define a new **security** policy requires to build and Reuse security Functions embedded insid each Solution

From these trends, an EA **Architecture** Road Map is defined which gathers all Architecture Projects.

3.1.2 Medium-term Business strategy is translated into Solutions

Medium-term Business strategy defines:

- New Products
- New Business Processes
- New Partnerships
- New relations with Customers

From these Objectives an EA **Solution** Road Map is defined.

- Which Solutions must be developed?
- When will they be deployed in each Unit or Company?

3.1.3 Medium-term Organization strategy has no Model Transformation impact

Medium-term Organization strategy defines:

- Which Organization changes are required internally: new Organization, new assignments of Actors to Activities?
- Whether the Company opens or closes Units which reuse the present Model (like opening a branch, a territory).
- Outsourcing of part of the activity, reusing the same Model.

From these objectives, Organization is adapted.
As it does not require a change in the Model, these changes are executed by Operations and not Transformation teams.

3.2 How to make comprehensive decisions?

This is clear in most Case Studies from sponsors: most IT decisions have a business counterpart.
EA is not a **collection of technologies**, or a **collection of independent Solutions**, but a **consistent answer to Enterprise Strategy**.
Each decision has consequences on Organization, Processes, software, information…
To take an easy example: if the strategic goal is to decrease costs, and you simply consider IT expenses, then the right answer is to cancel all IT expenses, which makes no sense.
So the decision process requires a clear comprehensive vision of all aspects. To clarify decisions, prepare decisions and communicate decisions, a **consistent Enterprise Representation** must be used.
(see CEISAR white paper on Enterprise Representation)

3.3 How to explain EA to executives?

Most executives have 3 characteristics; they lack **time**, they are not **IT experts**, they must deliver high **short-term** profit, which does not facilitate EA decisions which are complex decisions, which include technology, and which deliver long-term benefits.
The decider decides and checks results. The “Sherpa” prepares and follow up decision.
Decisions must be presented by the Sherpa using business language and not IT language.
It is his role to present different scenarios, evaluate Value, Costs, Planning and Risks before decisions are taken. He must earn the trust of key executives.
Deciders must understand enough about EA to be able to control these elements.

Justifying the **Sharing** of Operations elements is difficult, but Companies can succeed in proposing decisions to:

- Share Operations: share a Unit between different companies (like centralizing Procurement or IT Operations)
- Share Information on the Customer across the different business units of the Group

Reuse decisions are even more complex because it is difficult to prove Reused Element **Value,** for instance:

- “**Maps**” which give a global vision of EA (for example: a Process Map, a Capability Model, or an Entity Relation map or Block Map… see the Enterprise Model white paper)
- Same **business language** to ease communication between Business and IT
- Standardized **user interface** to increase productivity and facilitate internal mobility
- Reusable **Functions** like security Functions
- Same efficient Transformation Methodology which reduces time to market and increases Agility

We suggest delivering a one-day presentation to executives, which explains in simple terms the Value, Costs and conditions of success of an EA approach, by presenting topics such as:

- A set of independent Solutions does not make a good global Enterprise System
- Many Business and IT Elements can be shared between Solutions. They favor agility and consistency which give a competitive advantage to the Company
- Yet it requires full involvement from top management
- Architecture cannot be used if not proved and supported
    - Prove Architecture via Pilot projects

    - Build an Architecture support team for: documentation, training, consulting, checks
- How to implement the Architecture: get competency, progressive approach

(See the list of drivers below).

3.4 How to ensure consistency and save time when many decisions have to be taken?

A Manager must share his time and energy between: *taking or submitting decisions* (Governance) and *piloting application of decisions*. If Governance is too time consuming, it has a negative effect on efficiently piloting the application of decisions. Management is not only Governance: it is also **decision execution**.

Managers are involved into the Governance Process. Preparation of decisions, meetings, reports, is all time consuming. Decisions are not independent, because Solutions communicate, share same Information, and reuse same Functions. Checking consistency is onerous.

Some complain that Governance produces too many meetings and limits the time they can spend on executing decisions. So how to find the right balance between making good decisions and keeping time to manage Projects following decisions?

3.4.1 3 main Processes; Comprehensive Road Map, Solution Project Portfolio and Architecture Project portfolio

CEISAR's first proposal is that EA Governance could group all decisions into 3 processes, to limit the number of decisions and to guarantee consistency.

For a **Group** composed of **Companies**, the 3 Governance Processes have to be addressed not only at Company level but also at Group level, which makes a total of 6 Governance Process Models.

Deciding a "Comprehensive EA Road Map"

Based on Enterprise Strategy, propose and update an **EA Road Map** which defines Solution Projects and Architecture Projects for the next 3 (to 5) years.

Solution Projects and Architecture Projects are closely related: they reuse each other. A **global road map** must be defined which guarantees that projects are consistent together, and that mutual dependencies, priorities, reuse opportunities, etc. have been taken into account in the global scheduling.

Deciding "Solution Projects" with a Solution Project Portfolio vision

Group Solution decisions in a **Solution Project portfolio** by Company or Business Unit: budget constraints, business priorities, construction constraints and interactions between Solutions mean that decisions must be taken on a set of Proposed Solution Projects and not on isolated Solutions.

To optimize Execution quality, the Governance process must include checks like "Architecture compliance": Is the proposed Solution aligned with decisions already taken on Shared or Reused Elements?

Maintenance and light evolutions must not be decided individually but merged to justify a decided level of resource. This Solution Project Portfolio is more detailed than what is described into the EA road Map.

Deciding "Architecture Projects" with an Architecture Project Portfolio vision

Architecture Projects are Projects transversal to Solutions like Security projects, SOA projects, Master Data projects, UI standardization projects, Workflow projects, tool selection projects... Do not isolate decisions. Ask that all these decisions be presented in a global **Architecture Project portfolio.** Prefer a project which integrates different Architecture elements rather than individual technical decisions which must be integrated by each Solution Project. This Architecture Project Portfolio is more detailed than what is described into the EA road Map.

3.4.2 Decision is applied in 5 steps

The Solution decision Process comprises 5 steps:

- **gather** requests for all Solution Projects
- **decide** priorities for all Solution Projects
- For each Solution Project: **Architecture compliance** check

- For each Solution Project: "**go/no go" decision** after design and Project evaluation
- At the end of each Solution Project: **check** results, compare to objectives and take remedial action

The same process will be followed by Architecture Projects.

3.4.3 Govern the Governance Process just as you Govern the other Processes.

An Enterprise decides Projects to improve its **Operation** Processes as Selling Process or Delivery Process.
An Enterprise often forgets to decide Projects to improve its **Transformation** Processes as the Governance Process.

3.5 How to execute Enterprise Synergy?

The recommendation is to centralize Business Architects and IT Architects into a **unique Architecture team**.
IT Architects exist in most current Organizations.
Check that they are grouped into a single Architecture team which has responsibility over all elements reused by Solutions such as: "Security", "Quality", "Methodology", "Tools"…
Business Architects are not always identified. They represent a key resource which must take care of reusable business language, process models, Function Models, reused user interface, and Customer Master Data… important items often not assigned to anyone.
As described above, this Architecture team should have also **responsibility** to verify the **Enterprise Architecture compliance** of each Solution Project, and the **authority** to stop the Project if it does not comply. Some Projects may not comply for exceptional reasons: the **exception process** should be carefully applied to avoid dispersion of Projects.
But to avoid negative results at Architecture Compliance check time, this Architecture team should help Solution Projects in preceding steps, by **supporting** the Project Team (supporting means: training, consulting, advice...) and, even more efficiently, by **transferring an Architect** into important Solution Project teams. This is the best method for helping the Project Team, because the Architect is part of the team, if possible in the same office, which facilitates human relations. The role of this Architect is also to inform the Architecture team of required improvements on Reusable Elements:

- Some Architecture Components may require **improvements** because they are cumbersome, or too difficult to use, or lack certain Functions.
- The Solution team may build some **Components useful for other Solution Projects**: the Architecture team must import them, adapt them so that they can be used by other teams, integrate them with other Components and communicate this new version to other teams. Never accept that a Solution Project Team delivers Components to other Solution project Teams directly.

3.6 How to define the right level of Synergy in a Company?

Managers know that adding individually optimized Solutions does not make for globally optimized EA.
Sharing resources (People or IT) and reusing models (Process, Software or data Models) are crucial to good synergy.
All these topics cannot be addressed at solution Projects level, and yet must be addressed at some level within the Organization. We group them under the heading "**Architecture Projects**".
But how to define the right level of sharing or reuse? Enterprises need certain guidelines and models to better understand where they are and where they should go.
We suggest a model derived from the 4 stages of Architecture Maturity proposed by the MIT Sloan Center for Information Systems research.

3.6.1 Four stages of Architecture Maturity (from MIT Sloan Center for Information Systems research)

MIT Sloan Center for Information Systems research has defined 4 maturity levels:

- **Business Silos**: Business Units own their models and do not share Operations; no share, no reuse between Silos.
- **Standardized technology**: Business Units share

    - Operation Technology (Hardware, network, Operating systems, Data Base Management Systems, Middleware) to decrease IT Operation budgets
    - Transformation technology (to help analysis, design, test, migrate...) to decrease Transformation costs
- **Optimized Core**: Business Units share same Master Data and reuse same Process Models when appropriate to capture the essence of the Enterprise Business
- **Business Modularity**: Models are based on reusable Modules to enable strategic agility

It provides a good and simple perspective on Enterprise evolutions.

3.6.2 CEISAR maturity levels

We propose a model which is compatible with the former one with add-ons: make distinction between **Companies** and **Group** of Companies and detail **Optimized core** into 3 synergies

- Shared Data: like Customer data or Product Data
- Integrated End to End Processes which cross Business Unit frontiers and require that the different Solutions communicate.
- Shared Solutions which are used by all Business Units (like Collaboration Solutions).

For **Group**, Optimized Core is a combination of:

- Shared Group data
- Reused Solutions for several Companies: it means that the Group proposes Solution Models which can be adapted and deployed by each Company. When a Group consists of Companies operating a similar Business, it is one the most challenging and rewarding initiatives.
- Shared Group Solution Unit which works for all Companies (like Procurement Unit, IT Operation unit).

3.7 How to define the right level of Synergy in a Group?

A Group built from successive acquisitions tends to inherit a patchwork of heterogeneous Solutions.
And traditionally, groups have authorized development of local independent Solutions. However, groups composed of Companies delivering similar Products today believe that they could operate very similar Solutions. One of our Sponsors explained that they Operate 50 different Accounting Solutions in different Companies of the Group, while accounting functions are very similar.
How to manage this convergence?
How to build Group Solutions which can adapt to different Companies?
How to convince Companies to lose autonomy?
How to migrate from existing Company Systems to the new Group Target?
How to justify this huge investment?

Today Worldwide Groups are increasing synergy between their Companies.
Many industrial Groups are in the process of reusing same models (often called “Master Applications”) between the different Companies, or sharing Resources (Procurement Unit, IT Center Operations...).
This is more difficult for Service Companies like Banks or Insurance because:

- Scope is larger: their production is executed through IT, and not through plants
- National legislation has an impact on Products (ex: Life Insurance)
- Many Groups have grown via external acquisitions.

They have succeeded in beginning the convergence process:

- They concentrate Company aggregates for good Group visibility
- They mutualize IT Operation Centers
- They centralize some Solution Units
- They define technical Standards

But they still have not reached the stage where they can provide a complete and well accepted Company Model. When they succeed in massively sharing and reusing between Companies, the return will be important: not only by saving on Operations and IT expenses, but also by:

- Allowing exchange of good Products between Companies

- Offering worldwide services to global customers
- Increasing agility for all by a Group investment in Transformation Processes

This should be a real incentive for Groups to be ambitious, aggressive, and to accept to take some risks.

For Groups, “Optimized Core” is similar to what was presented for companies. It is a combination of

- **Shared Group data**
- **Reused Solutions for several Companies**: it means that the Group proposes Solution Models which can be adapted and deployed by each Company
- **Shared Group Solution Unit** which works for all Companies (like Procurement Unit, IT Operation unit).

The 2 differences from the Company model are:

- That **End to End Processes** are generally Operated inside a single Company, and so are not present for Groups
- That **Reusing Solutions** is one the most challenging and rewarding initiatives when a Group consists of Companies operating similar businesses.

As Group synergy is the most Rewarding, but the **most difficult to decide upon**, we help the Group Architecture Sherpa to build their arguments through this list:

If you Share or Reuse at Group level:	***It provides:***
E-Group Operations	
Solution Units *who work for different Companies, like shared HR department, shared back office, shared call center*	Economies of scale Group consistency
Master Data *on customers, organization, nomenclatures*	Cross-selling between companies Global Client risk, profitability Worldwide Client services Worldwide communication system for Organization Actors
IT Operation centers*: including Networks and User Support*	Economies of scale, easier outsourcing Applies global Risk policy More formalized User/IT Operations relation
IT Intelligence	Economies of scale Concentrates a maximum of resources on Business concerns Helps to share future Development and Operation Systems Increases innovation impact on Business evolution
F-Group Operation Model	
Process Map *which represents each Company Activity*	Helps the Group to identify which Process Domains could be executed by a **single Business Unit** for different Companies Useful for analyzing **outsourcing** opportunities Useful for **Business IT alignment** Helps to make the distinction between each Business Process and the different Organization Processes which adapt to each Company A first step for **Process reengineering** Allows productivity comparisons, because same Process definitions
Block Map*: hierarchy of Software Blocks with Interfaces between Blocks, with low coupling level*	Sharing of same IT global vision Better understanding of which Blocks can be shared between companies
Business Entity Definitions*: definitions of most common words are very difficult (Product, Client,*	Allows a common language between Business and IT and between Companies of the Group

Service, …)	Helps to define Shared Functions attached to Entities
*A **Model of what a Product is**: its breakdown into what is offered, what is subscribed and what is delivered, with Data and Business Rules at each level.*	If a Product is successful in a Company, the Group wishes that it is quickly understood, integrated and deployed in other Companies. This Model is a pre-condition to share operational Software Solutions between Companies Specially useful for the Service Industry
***Reusable Solution**: Means capacity to customize a Solution (language, tax and regulation constraints, business specificities) and deploy it in each company. Ex: HR, Business Intelligence, Referential mgt…*	Transformation savings Worldwide Services for Customers
***Reused Business Functions**: each Business Process is broken down into Business Functions like "check eligibility", "compute price", "update account", "print a Contract", "compute a commission"…* ***Software Components** can have different granularities:* *Classes or modules or Libraries* *Software Services (SOA)* *common Data Access Services* *models (inheritance)*	Reusability of common Business Functions helps to **standardize Usage**. Ex: same Pricing from the Web Solution or from the Branch Solution **Save time** when designing new Processes **Share software components** Give agility to each Company by offering Shared Software parts (or "Components") Increase development productivity and facilitate Maintenance costs Implement sharable Business and Organization Functions
***Organization Functions:** they are added to a Business Process to manage relations with Organization Actors* *Examples:* *Identify an IT User* *Check Authorization* *Add a Task to a To-Do List* *User Interfaces such as: Present information on a screen or a paper, or navigate*	Standardize usage of the IT System, ease user training and ease mobility of people between Business Units Save energy in defining Organization Functions Decrease software to develop or buy
***IT Operation Processes**: how to manage software changes, how to tune, how to manage exceptions, how to support Users* ***IT Operation Configurations and Tools**: OS, DBMS, Middleware, Production Tools*	Operation economies of scale: Common Blocks, shared Data Bases Procurement policy: subscribe Group contract with providers Concentrate technical knowledge Protect against risks associated with IT Operation Systems Easier to share IT Operations: IT centers and support
***Nomenclatures** at Group Level such as:* • *Product Domains* • *Customer Segments* • *Accounting Natures*	Consistency for reporting and business intelligence
G-Group Transformation	
***Transformation Units** to construct and support Group Solutions*	Reusable group solutions
***Transformation Units** to construct and support Group Architecture*	Sharable Maps, Software components, Data Models and Nomenclatures
H-Group Transformation Model	
Governance rules and committees	Stronger **alignment** between business strategy and IT Identification of what can be mutualized
***Construction Approach and Tools**: for*	**Agility**: increases Development productivity of

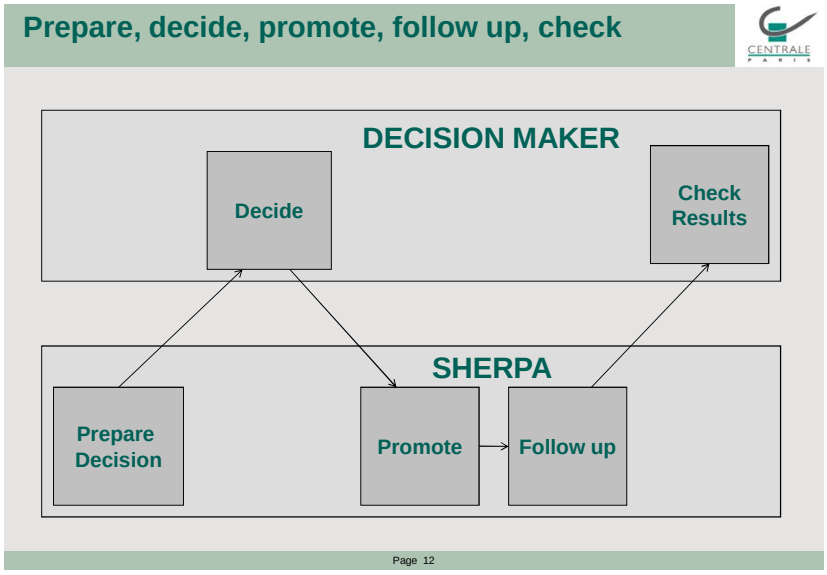
requirements, analysis, design, programming (language, case), tests, integration, performance, software configuration, documentation It is easier to share approach than tools, but the important decision concerns Tools, because: • the same approach is genuinely applied if common Tools are used • tools allow to keep memory and capitalize • tools facilitate exchange between people and Companies	each Company by reusing white components (models, inheritance, types, GUI …) Easier **mobility** of Transformation people between Companies of the Group Protect against **risks** associated with Development System. Allows to identify that part of the transformation which can be mutualized Simplifies IT Operation Center activities
Process Patterns: *used to describe the common part of similar Processes. Ex: subscribe Contract of Product 1, subscribe Contract of Product 2 reuse the Process Pattern "Subscribe a contract"*	Agility Saves energy spent by each Company in defining its own Processes Helps Companies to accept that requirements are close, and that they could reuse same Solutions Easier maintenance User Interface consistency

3.8 How to increase agility?

Operation Processes (sell, produce, deliver to customer) are reengineered to improve Operation productivity, to support new partnerships, to offer Internet access to Customers.
Transformation Processes (Projects) are not always identified as Processes to reengineer, because it is difficult to imagine that Transformation time drastically reduced if it is in-depth redesigned, if new tools and methods are used.
If Agility is key, make it a key topic in Governance decisions, ask that the Architecture team present a Project to **improve the agility chain**, from the moment when a new idea appears to the time when all Actors will be able to use it and **split** Transformation and Operation activities, in IT and Business structures.

3.9 How to decide and check decisions based on indicators?

The decision Process must include what happens before (**preparing** the decision), and after (**promoting**, **following up** and final **checking**).
But Deciders have no time to prepare and decide, to promote, follow up and check!
This is why we define two key roles: the decision Maker and the Sherpa.
Decide and **Check** come under the same responsibility: the "**decision Maker"**, who is the "Client" of the Governance Process.
Promote, **Prepare** and **Follow up** are generally under another level of responsibility: the "**Sherpa**", the Person who makes the proposal.



Transformation decisions are mainly made on the basis of Value delivered compared to Cost: cost of Build/buy, cost of Adaptations, cost of Deployment.
EA value must be analyzed beyond the value of IT alone. Indeed, EA embraces business processes, organization and IT systems supporting these processes and focuses on what is reusable or what can be shared.
Evaluation of **Costs** is improving: Sponsors evaluate their costs with a global vision which includes all aspects which should be presented in a matrix comprising several dimensions:

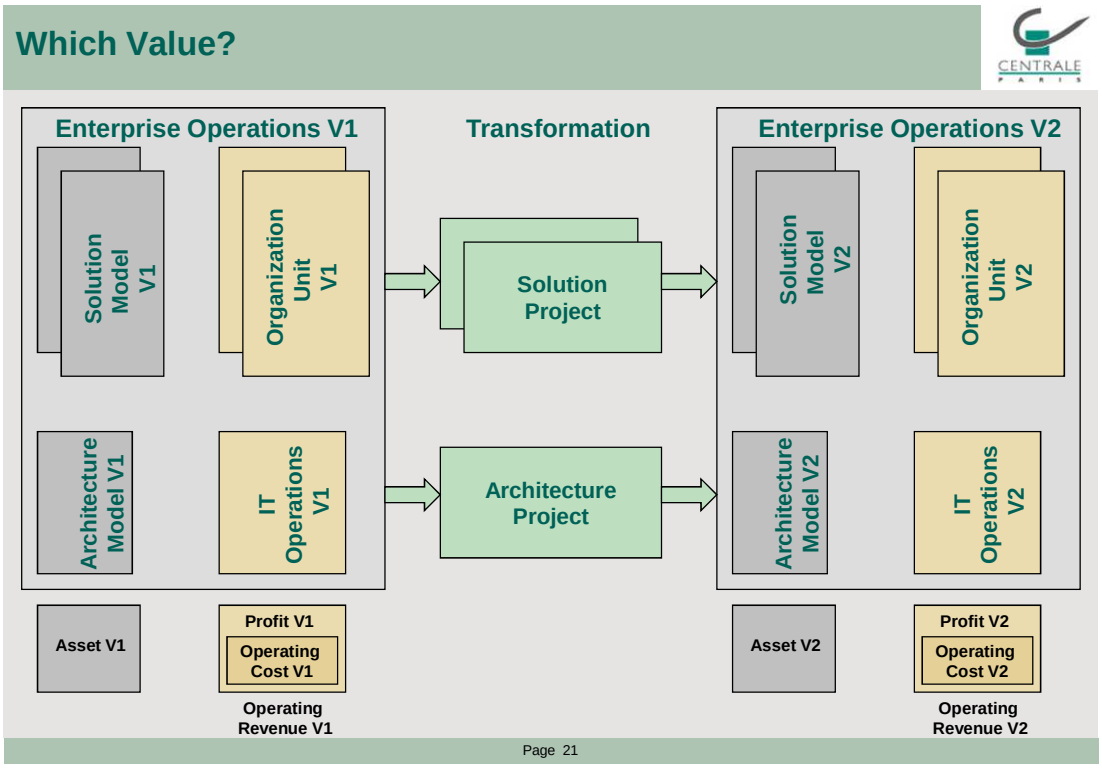
- By **destination** such as: Management, Transformations, Operations
- By cost **nature** such as: people, hardware, software, communication, premises
- **Architecture** and specific: with sharing rule for architecture expenses

Evaluation of **Project Value** is difficult for **Solution** Projects, and more difficult for **Architecture** Projects. Measure must focus on:

- Offered Functions
- Agility
- Productivity
- Quality

Evaluation of **Asset Value** should be a good basis to evaluate Project value: the Project Value is directly linked to the increase of Asset Value. But how to evaluate the Asset Value? Another white paper gives some elements, but we still have not found good practices on EA asset evaluation.

Remark: ROI is not always the right driver: a set of optimized individual decisions does not provide a global optimized System.



3.10 How to protect long-term decisions from current decisions?

As defined in the CEISAR Enterprise Model, Enterprise Processes belong to 2 categories: Operation Processes and Transformation Processes. For example, “execute an order” is an Operation Process, while “execute a project to launch a new Product” is a Transformation Process.
The frontier is simple: when the Enterprise Model is modified it is a Transformation Process, otherwise it is an Operation Process (cf: definition of the Model in “CEISAR Enterprise Model”).

Most **Operation decisions** do not change the Enterprise Model, they mainly focus on resource assignment: decide who is responsible for which Unit (but do not change the organization structure), assign tasks (but do not change Processes), replace computers (but do not change software).
Some Operation decisions are important. For example, important Organization changes (like centralizing or outsourcing an Operation Unit) do not change the Model, but are important decisions nonetheless.
Yet **most important strategic decisions** (new Product, new Process, new Distribution network, acquisitions) are translated into **Transformation decisions**.

The Present (Operations) "cannibalizes" the Future (Transformations): as **EA Governance** is mainly about Transformation, do not mix Operation decisions in the same committees where you discuss Transformation.

It may go well beyond Governance. When an Enterprise decides upon a leap forward, one success criteria is to **isolate the Transformation teams** (Business and IT) **from the Operation teams**, which does not prevent Operation Units from requiring Transformations.

Once Projects have been decided, a good way to save manager time is to just **manage exceptions**.

- If a project proceeds correctly: **do not organize meetings** to inform the people that the projects are fine and next steps will be executed according to the planning. Just report and provide Managers with Solutions which allow them to access this Project follow up information when they require it.
- If a project has problems and decisions are needed, then organize meetings but **only with relevant deciders** (other managers will be informed by the same means as before).

3.11 How to increase innovations?

Do not take risks on Operations: service quality must be optimal.
But taking risks on Transformations is acceptable. Be careful that Governance processes do not reward only compliance. Promote innovation, support the risk taking, reward those who succeed and do not discourage those who fail.
Propose a limited number of Pilot Projects which will not be constrained to comply with onerous procedures.
Companies like Google or Apple allow free initiatives from their teams: why not mimic this culture to favor innovation?

To summarize, EA Governance requires a lot of determination, risk, reorganization and effort, and yields a very low popularity score: people will always be reluctant to change.
But those Groups which master it will acquire a decisive, strategic, competitive advantage.

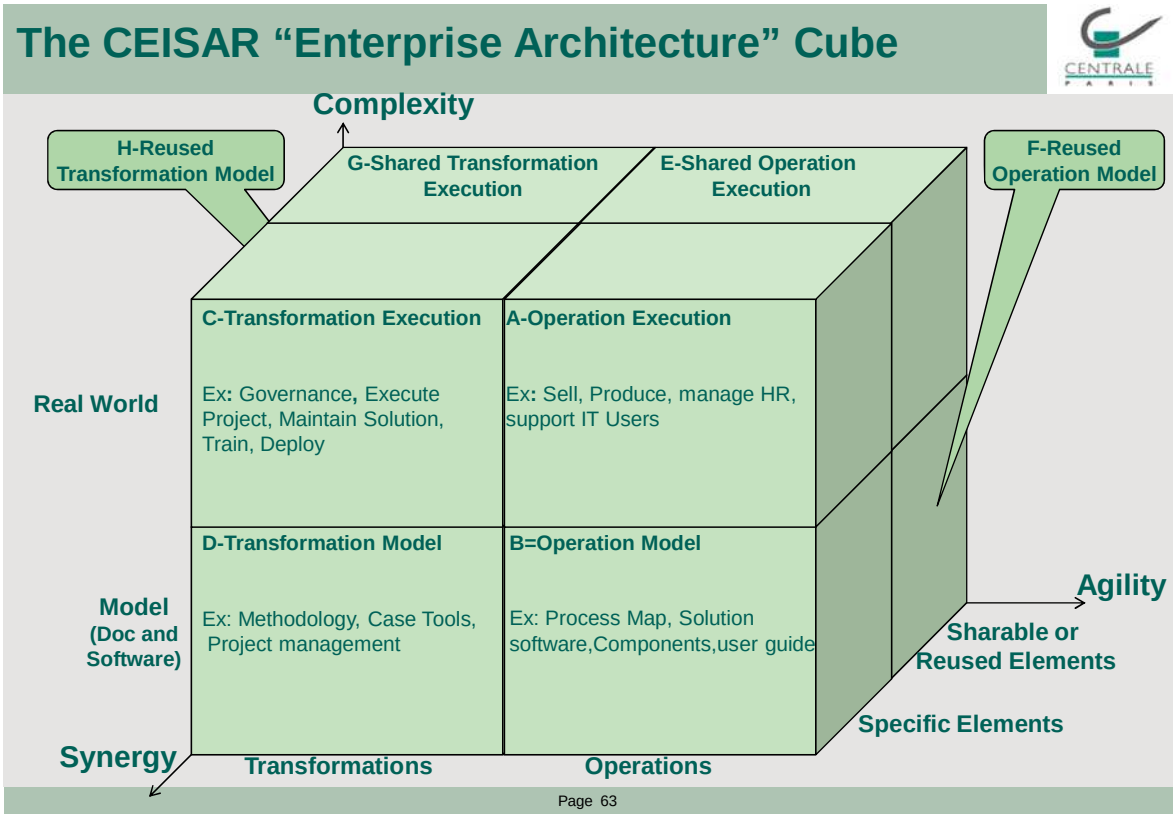
4 EA Governance Processes and Committees

To give an overview of EA Governance, we define main Governance Processes and main decision Committees.
Governance is more complex for Groups composed of several Companies.
This is why we start by defining the Governance Processes for a single independent Enterprise before enlarging our scope to a Group structure.

4.1 EA decisions for an independent Enterprise

The Enterprise Model White Paper proposes to model the Enterprise in the form of a cube.
Each dimension represents a major strategic concern:

- Understanding the **Complexity** of the Enterprise: viewing the Real World is not sufficient, we need a **Model,** which defines a vertical Dimension: the upper level is Real Life execution, the lower level is its Model.
- Increasing **Agility**: we split Processes in 2 categories: Operation Processes which manage Present, which describe how the Enterprise Operates (on the Right) and Transformation Processes which manage future and describes how the Enterprise Transforms itself (on the left)
- Finding the right **Synergy** level, the right balance between Centralization (or mutualization) and decentralization (or subsidiarity): specific Solutions (in the front) and Shared elements (at the back).



A Model does not make decisions: we classify some decisions in the upper boxes: A, C, E, G…
Some require to be included in the Governance Process (in bold), some do not.

A- Examples of decisions for **Operation Execution**

- Create a new Branch (using the same model as other branches)
- Outsource a Solution Unit (using the same Solution model)
- Hire Employees
- Purchase computers

C- Examples of decisions for **Transformation Execution**

- **Construct a new Actor Model:** define new classifications (Roles, Rights, Duties) for Employees, new software or hardware configurations for computers
- **Construct a new Solution Model:** like “Make/buy the CRM Solution”
- **Construct a new Data Model:** like “rebuild the Product data model”
- Outsource a Transformation Unit (programming in India)
- Hire Developers

E- Examples of decisions for **Shared Operation Execution** (more efficient if we reuse the same Model)

- **Create a shared IT Operation Unit** to centralize IT operations or IT User Support
- **Create a shared Solution Unit** like a shared Call Center
- **Create Master Data** to offer a unique Customer view

G- Examples of decisions for **Shared Transformation Execution** (more efficient if we reuse the same Model)

- **Define a Reusable Actor Model, including** new Roles for Business Analysts, Developers, Integrators
- **Construct a reusable Solution Model** like a shared Call Center Model
- **Construct reusable Master Data Model** like a unique Customer Model
- **Construct sharable Software Services** like Software components (SOA)
- **Construct a new Transformation Model** for all Projects**:** new methodology and tools
- **Create a shared Transformation unit** like centralize IT Developers or Business Analysts

That makes for a lot of decisions!

4.2 EA decisions for a Group of Companies

4.2.1 A Group works for itself or for Companies

A Group works for itself. Examples:

- It manages relations with Shareholders, governmental agencies
- It decides to merge or acquire Enterprises
- It manages its own resources: Headquarters Employees, Facilities, Computers
- …

A Group works for Companies. Examples:

- It centralizes Procurement Activities
- It centralizes IT Operations Center
- It defines IT Standards
- It defines Transformation Processes (Group Methodology)
- IT builds and supports a set of Software Services
- …

When a Group works for itself, it should be considered like any Company of the Group, applying the same Governance. When a Group works for Companies, Governance must be adapted. It only focuses on Shared Elements: there are no Group Specific Solutions.

4.2.2 EA decisions for group Shared Elements

E- Examples of decisions for **Shared Operation Execution** (more efficient if we reuse the same Model)

- **Create a shared Group IT Operation Unit** to centralize IT operations or IT User Support
- **Create a shared Group Solution Unit** like a Group call center, a Group procurement Unit
- **Create Group Master Data** to offer a unique Customer view

G- Examples of decisions for **Shared Transformation Execution** (more efficient if reuse the same Model)

- **Define global Models** for Functions, Processes, Capabilities, Information, Block interactions
- **Define a Reusable Group Actor Model, including** Roles for Business Analysts, Developers, Integrators, software or hardware configurations for computers ("Standards")
- **Construct a reusable Group Solution Model** like a shared Claim Model which can be customized and Operated by each Company
- **Construct reusable Group Master Data Model**
- **Construct Sharable Group Software Services** like Software components (SOA)
- **Construct a new Group Transformation Model** for all Projects**:** new methodology and tools
- **Create a shared Group Transformation unit** to build and support Architecture, or to centralize IT Developers or Business Analysts for several Companies

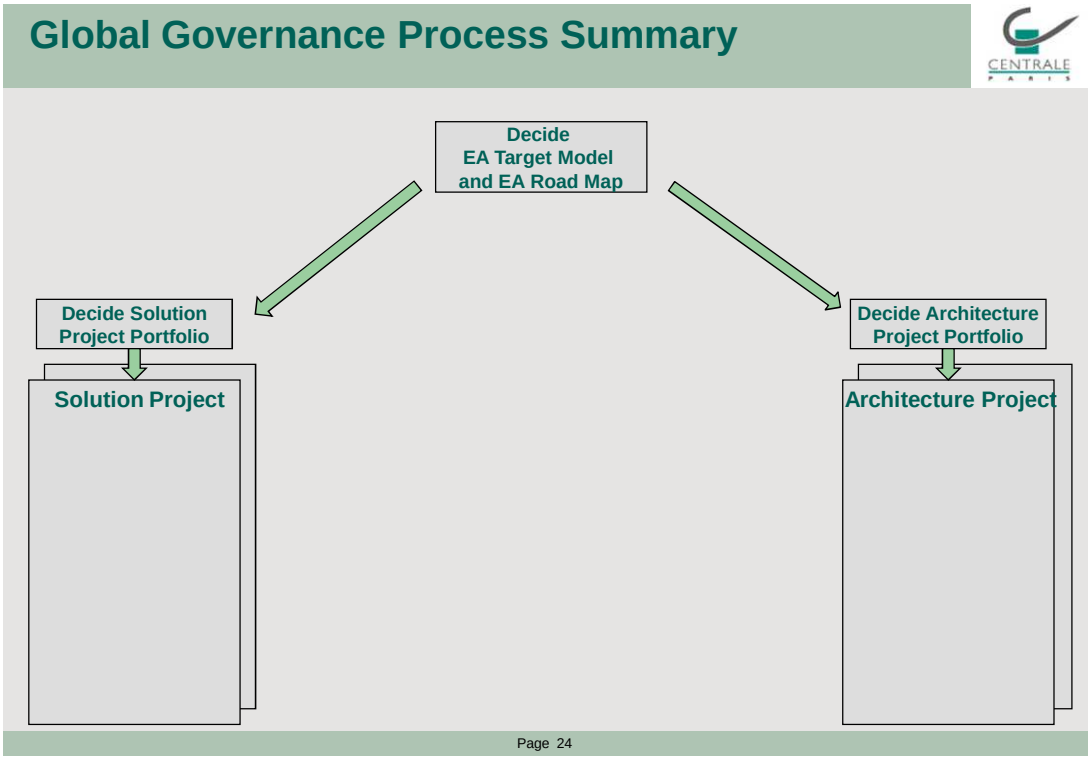
4.3 List of Governance Processes for main decisions

A **Global approach is required**: an EA target Model must be defined which is aligned with Enterprise Objectives. The target Model is not sufficient. It also requires a global Road Map which defines steps and global budgets for the next 3 (to 5) years. The usual Governance practice is to define a **moving 3 year plan** (often called "Road Map") with an annual budget decision.

As defined in the Enterprise Model, main Transformation decisions focus on **Solution Projects** or **Architecture Projects**. These decisions can be taken at Group or Company levels.

Project Portfolio:
One Sponsor makes independent decisions on Solution Project.
All other Sponsors decide Solution Projects through a **Project Portfolio** approach because decisions on Solutions are generally not taken independently from each other:

- **budget is limited** and executives require a global vision to define priorities
- **competencies** can be rare and must be assigned to most important projects
- Solutions **reuse** each other: they are connected, use shared data. It is more efficient to start building Solutions which create the data used by following Solutions.



To summarize:
Company Governance must focus on:

1. Deciding the **EA company Target** and **EA Road Map** for the Company: a 3 (to 5) year plan which gives an overview of Transformations with required resources

2. Deciding **Solution Projects** for the Company and Deploying them: Make/buy a new Solution Model or in-depth Transform an existing Solution Model (like redo the CRM Solution Model)
3. Deciding **Architecture projects** for the Company (including Master Data Projects)

Group Governance must focus on:

1. Deciding the **EA Group Target** and **EA Road Map** for the Group: a 3 (to 5) year plan which gives an overview of Transformations with required resources
2. Deciding **Group Solution Projects** for Companies
3. Deciding **Group Architecture Projects** for Companies (including Master Data Projects)
4. Deciding to create **Group Units** which operate for Companies: Solution Unit or IT Operations

4.4 Enterprise Governance Committees

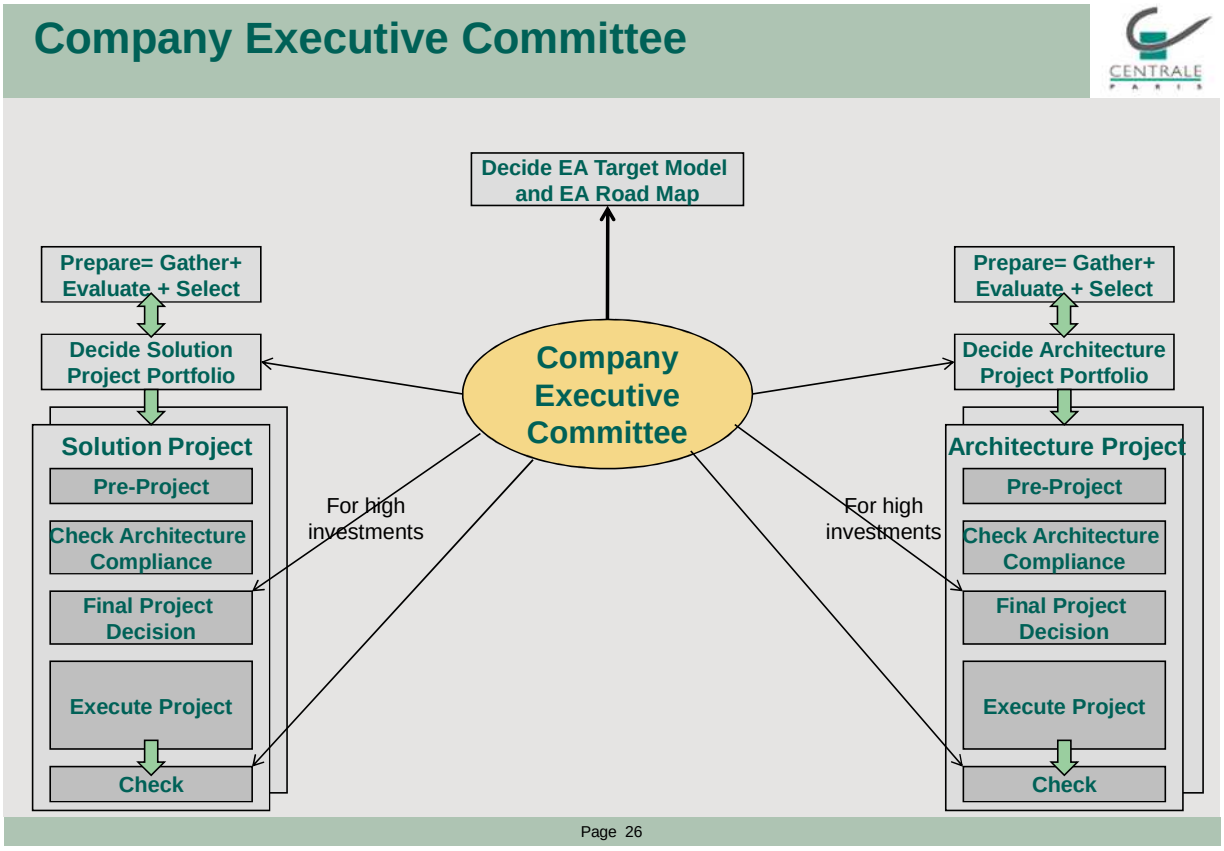
The list of committees is not the same for each Group. But from what was observed, we found it possible to summarize the most important Committees.
Some recommendations:

- EA Governance Committees should reuse **existing** committees as much as possible, to avoid over multiplication of Committees.
- Business Professionals **and** IT Professionals together are part of each committee.
- At Group or Company levels, the **Architecture Committee** groups decisions which are often spread over different Committees, such as: Security, Quality, Approach, Tools …

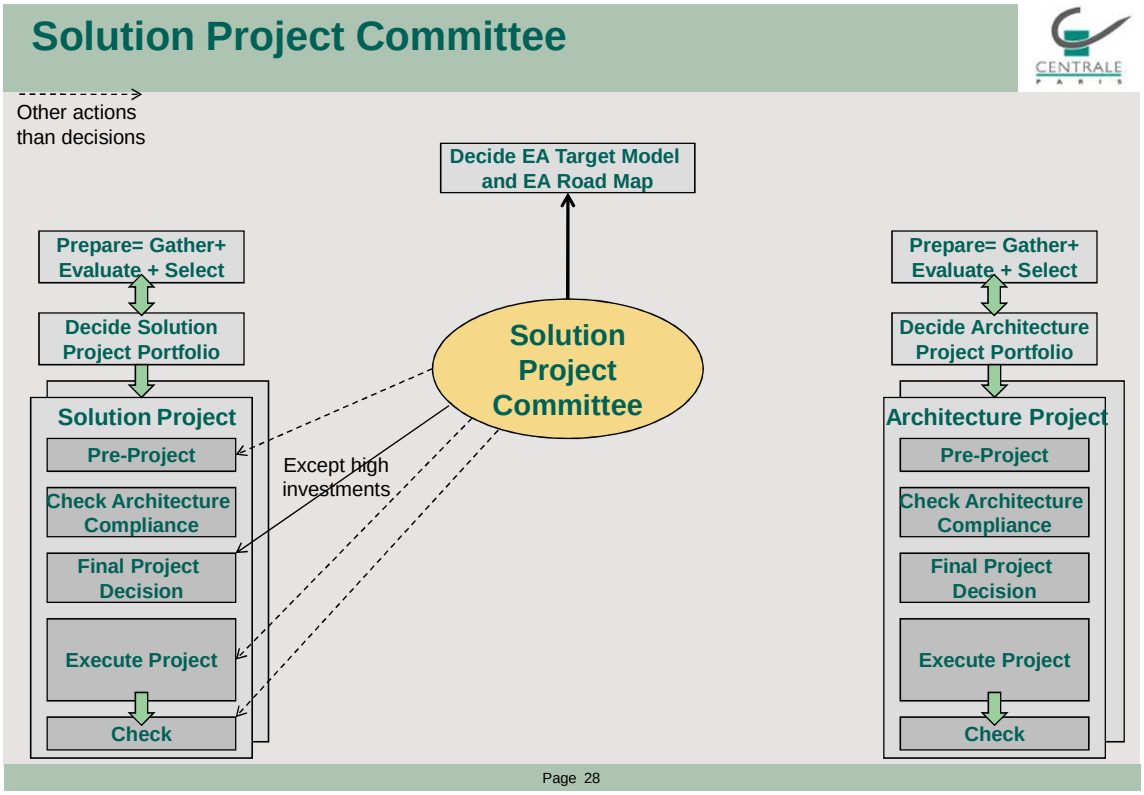
4.4.1 Company Committees

The **Company Executive Committee** makes important decisions at Company level:

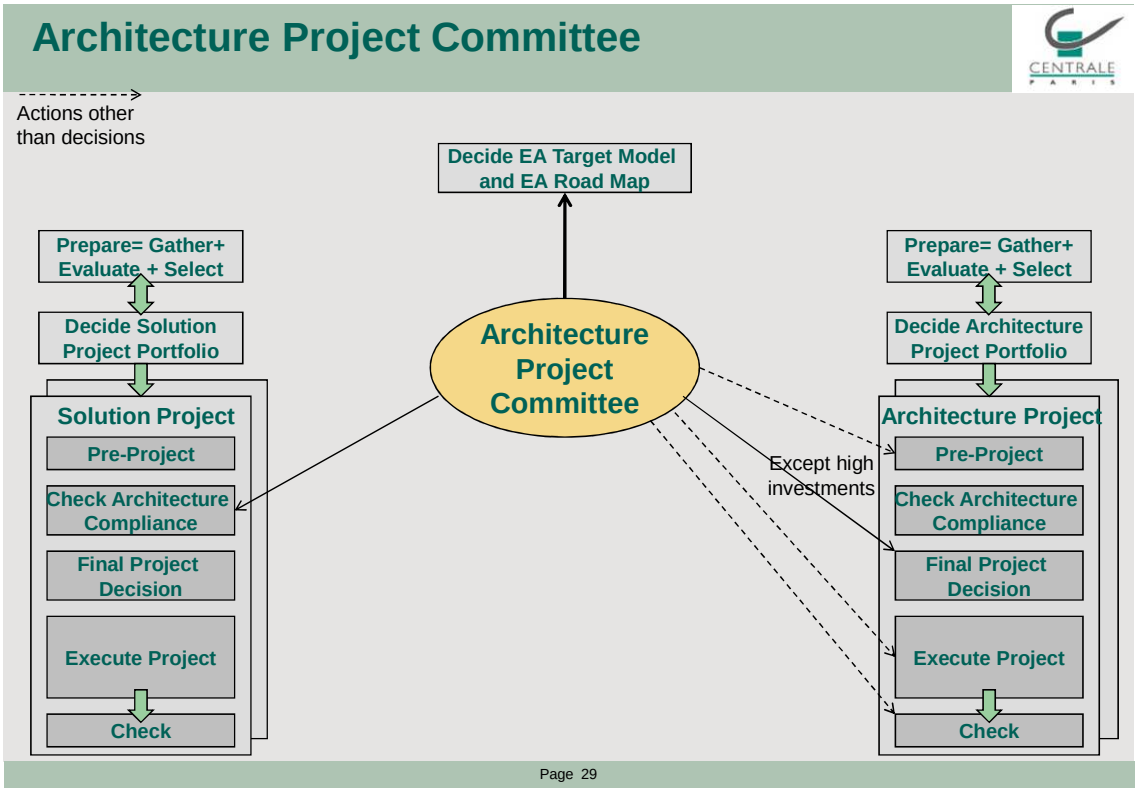
- Road Map of the Company Transformations
- Annual Solution Portfolio priorities and annual budget
- Annual Architecture Portfolio priorities and annual budget



For each Solution Project, the **Company Solution Committee** confirms the decision when evaluation is precise enough.



The **Company Architecture Committee** makes decisions on each Architecture Project and checks Architecture compliance of Solution Projects.



4.4.2 Group Committee responsibilities

The **Group Executive Committee** makes important decisions at Group level:

- Road Map of the Group Transformations
- Annual Group Solution Portfolio priorities and annual budget
- Annual Group Architecture Portfolio priorities and annual budget

- Activities to centralize (Organization Units or IT Operations): outsourced or not

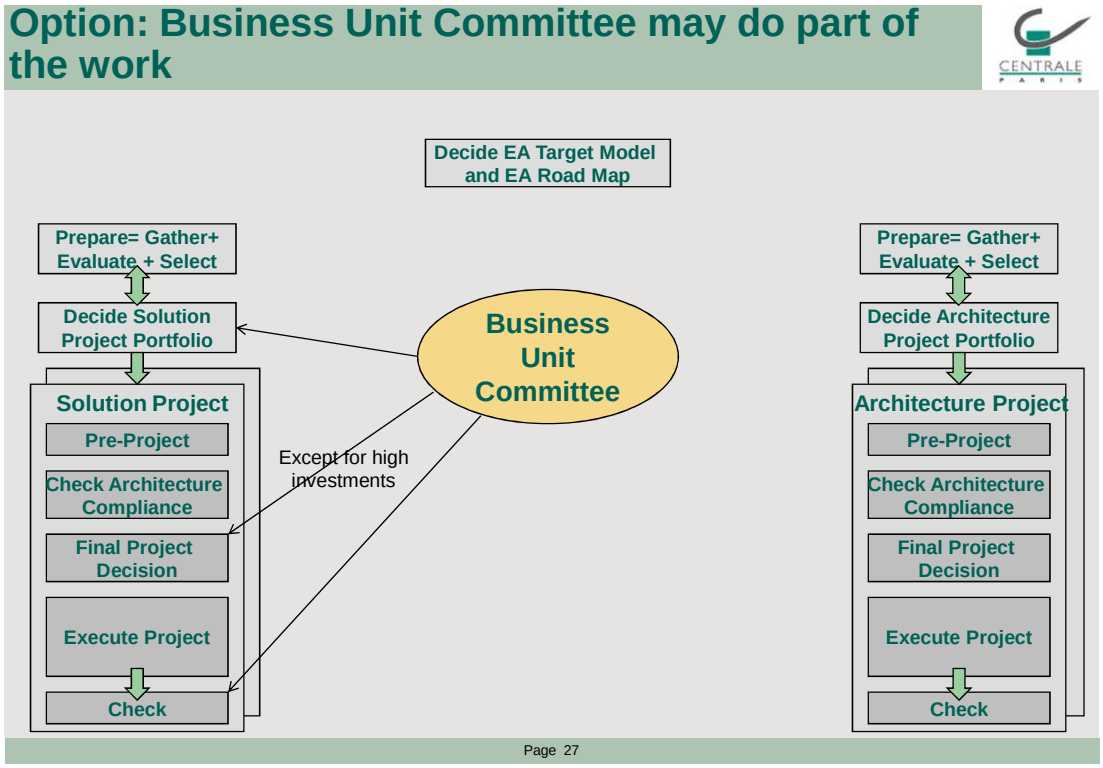
The **Group Solution Committee** makes decisions on each Group Solution Project:

- Decides Group Solution Project when evaluation is precise enough: a Solution Model shared by different Companies of the Group.
- Checks if important investments in Companies could be mutualized

The **Group Architect Committee** makes decisions on Group Architecture Projects and checks Architecture compliance of Solution Projects.

Options

- In some Groups, the Group Executive Committee may transfer part of its decisions to a **CIO Committee** where the key Company CIOs are represented.
- In large Companies, a **Business Unit Committee** makes Solution Project decisions, except for large investments.
- Solution Project Portfolio process is well accepted, while Architecture Project Portfolio process is not. Some Enterprises spread Architecture decisions across different committees. They will progressively group Architecture Projects into a portfolio because:
  - Budget constraints require defining priorities and global vision
  - A set of independent Architecture elements does not make for a good global Architecture
  - There are many relations between Architecture Projects such as:
    - The different Maps (Processes, Functions, Entities) must be aligned
    - Transformation Process is more efficient if Transformation Tools are consistent
    - Components must be compatible with Development Tools and Operation Tools
    - Technical Components must be compatible with Transformation and Operation tools
    - Business components must be compatible with Technical Components
    - …



- We have listed the main Decision Committees. Some other Committees exist to:
  - Prepare Decisions (select priorities, evaluate costs and delays)
  - Pilot each Solution or Architecture Project once it has been decided
  - Connect experts: some Sponsors have no specific Architecture Committee which really decides, but organize periodic meetings with main Architect leaders to make proposals

5 Main Company Governance Processes

5.1 Deciding EA Target Model and EA Road Map

The Target Model must be **aligned** with Enterprise Strategy which is its input.
The Target Model description requires an Enterprise Model (CEISAR proposes a simple Enterprise Model pattern: see white paper on Enterprise Model).
It includes:

- Target Operation Model:
  - Main Actor Roles
  - Main strategic End to End Processes which must be Transformed: do not try to describe all Processes in detail, just focus on the main Processes (10 is a maximum)
  - Main Master Data: focus on Customer and Product information
- Target Transformation Models
  - Main Actor Roles: for Business Transformation Unit, Organization Unit, IT teams
  - Main Strategic Transformation Processes: How will the Enterprise be Transformed? Including **Governance Processes**
  - Main Data Model for the Enterprise: a common language to ease communication between Business and IT people

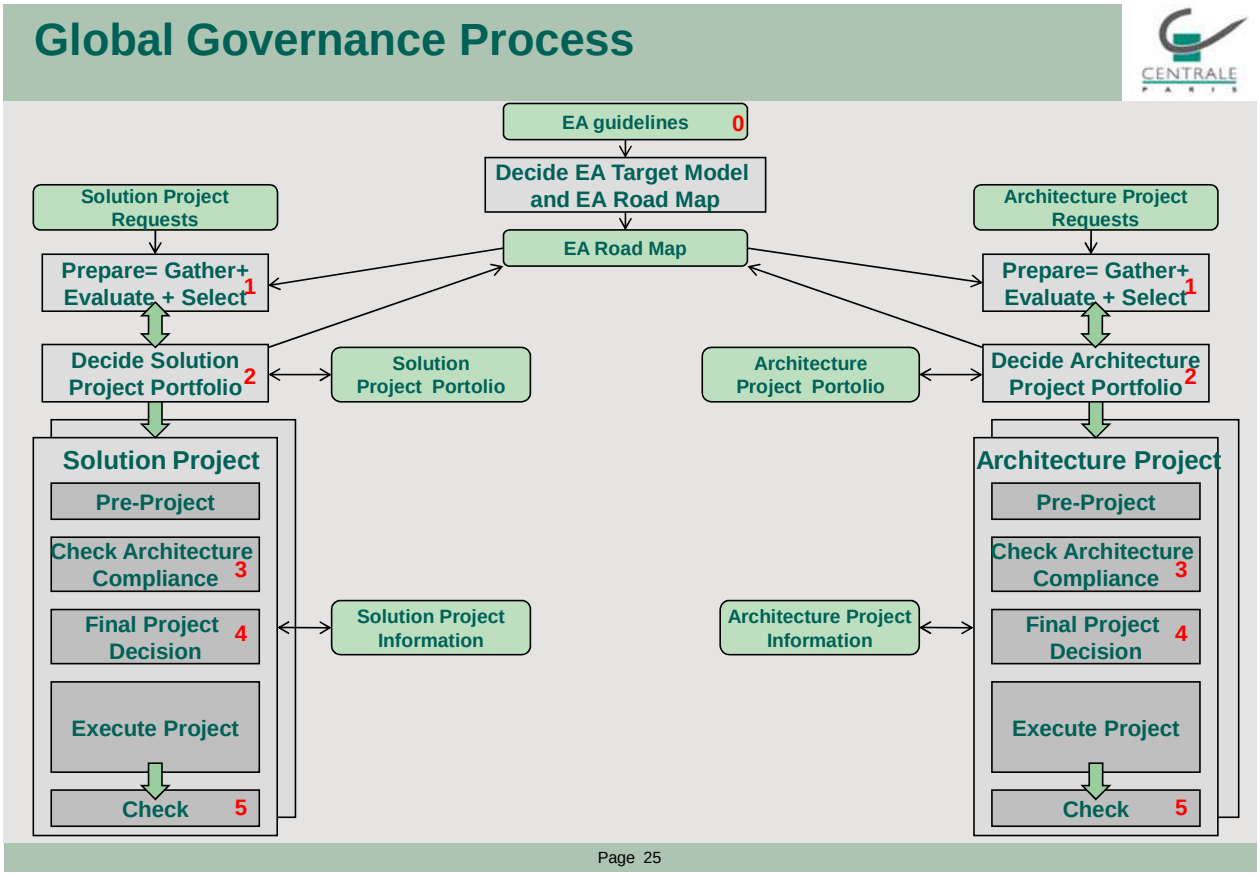
These Target Models must detail what is **Shared** or **Reused** by the Business Units of the Company.

The **Road Map** plans Transformations for next 3 (to 5) years with related **Budgets**.
Transformation Actors require a medium-term vision: many of their Transformations will not bring their Value during the current year.
The Road Map describes not only the target Model planning but also the **Deployment Planning**: When will the Business Units benefit from the new target Model?
This Road Map will be **updated** every year according to changing business priorities. Stability of the Road map is key to mastering Transformation costs and efficiency.

Benefits must be evaluated according to Return on Investment, but also with regard to other **quantified indicators** (see above).

5.2 Deciding a new Solution in a Company

Different types of Projects
Projects include new Solutions (Replacement), evolutions of existing Solutions (Transformation) and current maintenance.
Maintenance is generally summarized by a fixed amount of resources managed as a whole.
If it is a new Solution, the choice “Package or in-house development” has a huge impact on Value, Price, and time.
If in-house development is chosen, reuse shared Elements decided by Architecture committees. If it is not possible, explain why. It is not up to the Architecture team to prove that Architecture is useful: it is up to the Solution team to prove that Architecture is useless, which pushes the Solution team to investigate Architecture.



Starting Point (0)
The Executive Committee has approved the EA Target Model and the EA Road Map with global Budgets.

Step 1 Project Selection
The Solution Sherpa gathers **Project Requests** which consists of a short description of the proposed project and summarizes the business rationale for the investment.
For each Project Request a "**Project Baseline**" is defined which describes a first evaluation for delivered value, time and costs.
The Sherpa **prioritizes** a sub-set of the Projects.
This Selection is approved by the Solution Committee.
The Portfolio should be presented according to a **global Process Map**: it will enable to identify if some Process Domains are abandoned or excessive.
For **important investments**, the Group may check if the investment could be mutualized with other Companies (see Group Governance).
Projects can be classified as "excellence", "base applications", or "infrastructure" - check their percentage.

Step 2 Project decision
The Executive Committee decides the Projects which will be funded. The decision is based on Road Map, Global Budget and the presentation made by the Sherpa.
If necessary, several iterations must be carried out (one of the Sponsors executes 3 iterations a year).
The decision is not final, but expenses are authorized until step 4 is reached which confirms the decision.

Step 3 Architecture Compliance
The Project starts with the design phase.
When the global Design is done, the Architecture Committee must check and approve that it complies with Architecture and reuses all Shared Elements.
It is mandatory that this step be done before Step 4: otherwise Architecture will never be applied.

Step 4 Confirm Decision
Confirm Solution Project when design is sufficiently detailed to evaluate Value, scope, planning, costs, and risks.

Some other steps exist in the Project Process which are not detailed in this Governance Document (like Acceptance or decision to deploy).

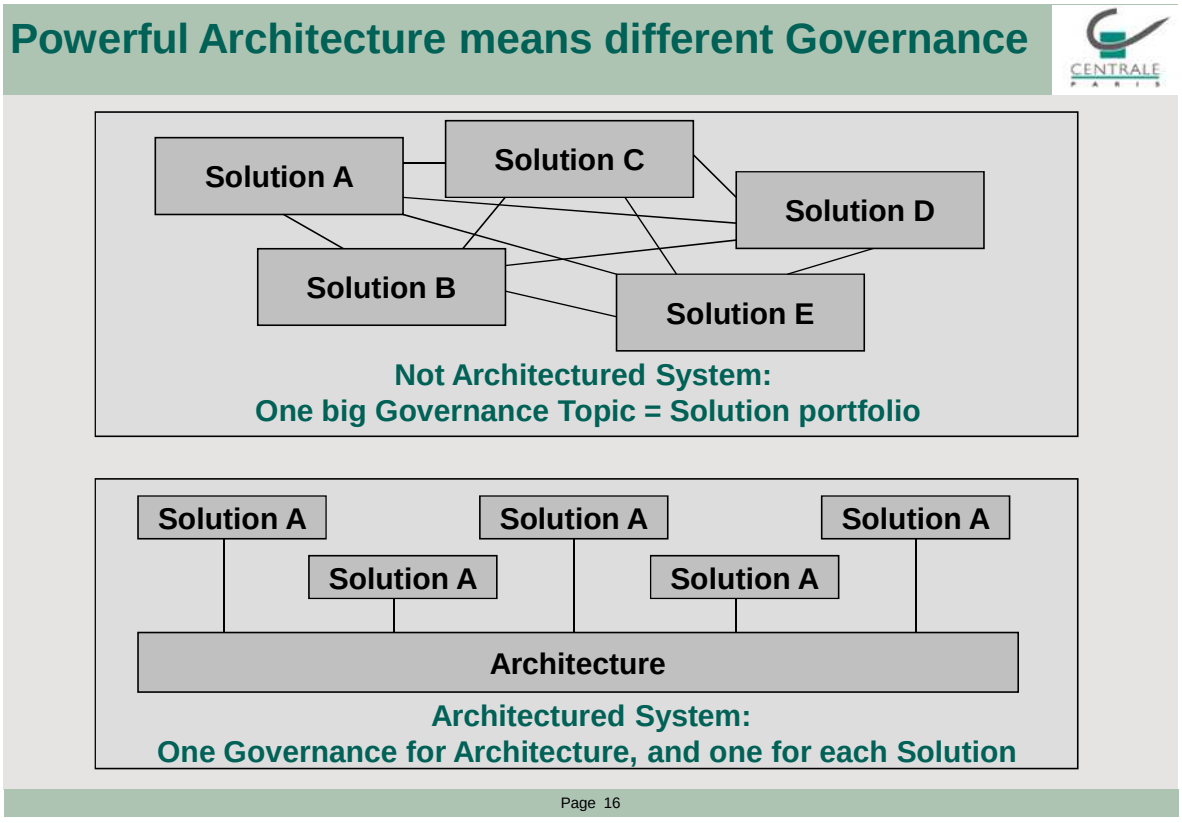
Step 5 Check results
The Executive committee must check the project results once it is carried out: What are the delivered Value, Costs, Planning? How do they compare to information delivered in step 2?

5.3 Deciding Architecture (Shared Operation Model) in a Company

5.3.1 Governance Impact

Architecture allows isolation of Solutions from each other. If a Solution reuses Architecture, then it is automatically integrated with other Solutions (Interface Components are part of the Architecture Model).

- If you use a powerful Architecture (Shared and Reusable elements) you need a Governance Process for Architecture and a Governance process for each Solution
- If you have no Architecture, you need a Global Governance Process for all Solutions together, which is more complex to manage



5.3.2 Before deciding Architecture Project, describe present Enterprise Model and evaluate it

As described above, a presentation of Architecture value must be delivered to the Executive.
As a good Architecture is the answer to concerns like: agility, consistency, simplification, it is very useful to evaluate these items:

1. Measure **complexity of EA** (see white paper on “how to simplify Legacy Systems”)
2. Measure effect of complexity on **agility, costs** and **quality**
3. Then summarize the Architecture status
4. Explain why there is a relation between lack of Architecture and complexity
5. Propose Architecture Projects to reduce complexity

This is a good way to clarify what Architecture is. Carrying out this exercise allows the Company to realize that Architecture scope is often larger than they think, and goes well beyond technical layers.
This preparation phase is necessary to help Deciders understand the value of Architecture Projects such as:

- Building Reusable Functions to quickly adapt Processes to multiple channels
- Defining a new Transformation Process to improve agility
- Developing UI components which guarantee standard interfaces for end users

5.3.3 Conditions of success for Architecture Project

- Explain value and difficulty to top management
- Priorities are defined by its clients: the Solution Teams
- Progressive implementation, but global approach
- It is more efficient to decide a pre-integrated infrastructure, rather than a list of independent Standards whose integration must be done by the Company
- Prove efficiency through Pilots. Deploy a positive **pilot** before global deployment to other “customers”. But do not limit the pilot to IT system: think globally, think EA

6 Main Group Governance Processes

6.1 Different opportunities

Many share opportunities exist between Companies of the same Group. As described above:

E- Examples of decisions for **Shared Operation Execution**

- **Create a shared Group IT Operation Unit** to centralize IT operations or IT User Support
- **Create a shared Group Solution Unit** like a Group call center, a Group procurement Unit
- **Create Group Master Data** to offer a unique view on Customer, Organization Structures, external Actors

G- Examples of decisions for **Shared Transformation Execution**

- **Define Global Models** for Functions, Processes, Capabilities, Information, Block interactions
- **Define a Reusable Group Actor Model, including** Roles for Business Analysts, Developers, Integrators, software or hardware configurations for computers ("Standards")
- **Construct a reusable Group Solution Model** like a shared Claim Model which can be customized and Operated by each Company
- **Construct reusable Group Master Data Model**
- **Construct reusable Group Software Services** like Software components (SOA)
- **Construct a new Group Transformation Model** for all Projects**:** new methodology and tools are mandatory for building Group Solutions and Group Architecture, but they are also useful for Companies
- **Create a shared Group Transformation unit** to
    - build and support Group Architecture,
    - or to build Group Solution Models
    - or to centralize IT Developers or Business Analysts for several Companies

Group Architecture scope depends on Group Strategy

An **Industrial** Group gets its competitive advantage from innovation, the quality of its Products and the efficiency of its Organization. EA will be mainly used to optimize Organization.
When its Processes are similar to its competitors, it may use **external application packages**.

A **Service** Group uses the Information System not only to automate its Processes, but also as its **factory**: Services delivered to its clients use the Information system directly.
For Primary Processes, they generally prefer **in-house Solutions** to external Solution Packages.

6.2 Deciding Group EA Target Model and EA Road Map

It is similar to the Company Process, but **more difficult** because:

- many independent and spread out Companies must be part of the decision
- a target Model for many different Companies is more difficult to achieve than a target Model for different Business Units of the same Company
- decision to Deploy is difficult for Companies

The Target Model must be aligned with Group Strategy which is its input.
It includes:

- Target Operation Model:
    - Main Actor Roles: definition of Organization Unit roles and definition of Group **IT infrastructure**
    - Main strategic End to End Process Patterns, if the Group develops **shared Solutions** reusable by the Companies
    - Main Group Master Data: focus on **Group Customer information**
- Target Transformation Models
    - Main Actor Roles: for Business Transformation Unit, Organization Unit, IT teams (**strategic Role of IT** must be defined)

- Main Strategic Transformation Processes: How will the Companies be Transformed? Including **Governance Processes** and **Project Methodology**
- Main Data Model for the Group: a **common business language** to ease communication between Business and IT people

These Target Models must detail what is **Shared** or **Reused** between the Group and the Companies.

The **Road Map** plans Transformations for the next 3 (to5) years with related **Budgets**.
The Road Map describes not only the Target Model planning but also the **Deployment Planning**: When will the Companies benefit from the new Group Target Model?
This Road Map will be **updated** every year according to changing business priorities.

6.3 Deciding to share Group Solution Units

The Group Operates Company Activities in a centralized Unit.
For example:

- Procurement Activities are centralized into a Group Unit
- IT Operations are centralized into a Group Unit

These decisions bring economies of scale and Group consistency.
They also impose Service Contracts between these Units and the Company which help to formalize relations.
But this domain is limited to Solutions for which Business requirements are the **same for all companies**: it will be well adapted to topics like Resource Processes.
Decision is not too complex because there is pure centralization. (Sharing customizable Group Solutions or sharing Group Architecture is much more difficult: see below).

6.4 Deciding to share Master data

The Group Operates Master Data reusable by all Company Solutions.
It requires a worldwide communication system to allow all Organization Actors to access the Master Data.
It means that companies must agree on **Entity definitions** (see White Paper on "how to define Business Entities") and how to **identify** them.
It means that Companies must agree on a **Group Data model**. This model must be **enhanced** by each company which requires adding Company data to the same Business Entities.
It also means that the Group must provide Functions to **access** the shared Data.
For Customer Master Data, decision is based on:

- Business necessity to **consolidate data** coming from different Companies on the same Customer (like profitability, risk, behavior, subscribed Products…)
- Business necessity to offer **Worldwide Services** coming from different Companies to the same Customer
- **Cross-Selling** opportunities

For Organization Master Data, decision is based on:

- Necessity to offer Cooperation Solutions (e-mails, video-conferences)
- Ability for any Company Worker to identify himself and access information on any Work Station in the world

Master Data deployment can be done in 2 steps:

1. Company uses Group Solutions directly to access shared data
2. Company modifies its own Solution Models so that they access shared data and manage complementary data directly.

6.5 Deciding to Construct Group Solutions reusable by Companies

When a Company requires a major new investment, the Group must check if this investment should be mutualized with other Companies of the Group. It makes sense when the different Companies of the Group have similar Activities.
The Group should review major investments from Companies. For each of them:

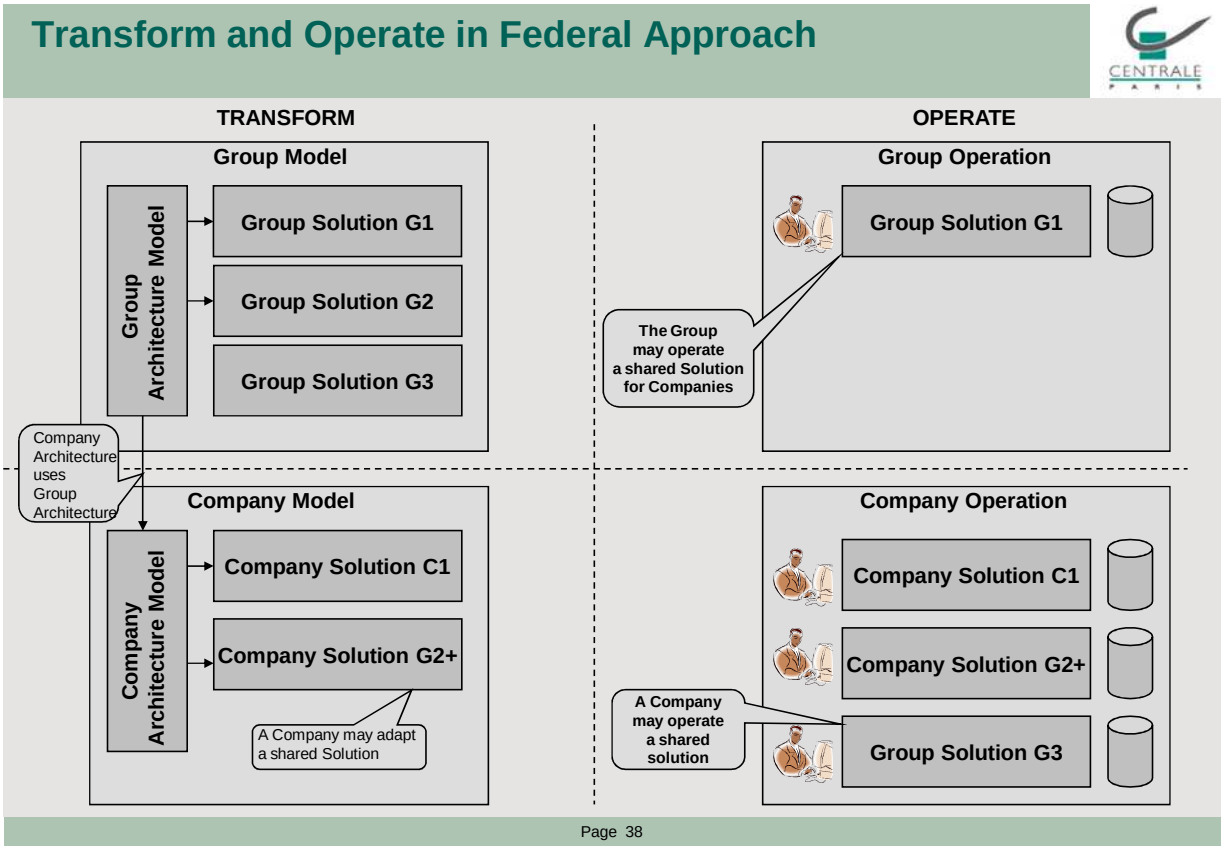
- Does an existing Solution meet the Company requirements? If so, just upgrade existing Solution.
- If not, it will be a new Solution. Could this new Solution be reused by other Companies? If yes:

- Evaluate feasibility, time, costs and risks
- If feasible: it becomes a **Group responsibility**

Be careful, a Solution built for different Companies is more complex than a Solution built for a single Company: cost, time and risks are higher: How to split shared part and customized part? How to manage independent evolutions?

Remark: as explained above, specific Holding Solutions are not called “Group Solutions”. The Holding is considered as a Company to which same rules apply. We reserve the word “Group Solution Model” to Solution Model **transformed** by the Group and **operated** by or different Companies (not necessarily all of them).
This Group Solution Model may also be operated by a single Group Organization Unit which centralizes the activities of the different Companies.
Example: a single HR resource Group Solution can be operated:

- Either by each Company which is autonomous in managing its employees
- Or by a Group Unit which manages the employees of all Companies



Once a Group Solution is built, it must be adapted so as to be integrated into the Company Model.
The Group must support this effort and help the Company.
Price of the Solution and Support should be competitive compared to market Solutions, so that the Company makes an easy decision.

6.6 Deciding to Construct a Group Architecture reusable by Companies

6.6.1 High Value but difficult

If Companies operate Solutions based on the same set of Components, then **value** of mutualization can be **huge** for Group and Companies in term of:

- Capacity to **exchange** not only good ideas, but also **good Solutions** between Companies
- **Simplification** of the overall System

- **Economies of scale** for **Operations**: easy to Mutualize Units
- **Economies of scale** for **Transformations**
- Global view of **worldwide Customers**
- **Worldwide Services** offered to the same Customer
- Easier Employee mobility between Companies

But this is the **most difficult Governance problem**.

- How to build efficient Group Components which accept specificities of each Company?
- How to build consensus?
- How to transform existing Company Systems to take advantage of Group Components?
- How to bring them the right level of support?

Remark: some Groups differentiate "Centralize" which means imposed by Group on all companies, and "Mutualize" which means chosen by some Companies of the Group. CEISAR proposes to use only Centralize, which means developed under Group responsibility and reused by part or all of Companies.

6.6.2 Conditions of success

See conditions of success for Companies and add:

- **Group Executives** must be involved in this long-term decision which will require their ongoing support
- **Involve Companies**: make Group Architecture decisions **with** Group Architecture "Clients", the Company managers and Company Architects (Business and IT)
- To Build a good Group target model, transfer some of the **best** and respected **Architects** from Companies to the Group Architect team
- Deploy the Group target model on a **Pilot** Company/Business Unit to prove its efficiency
- Before deploying the Group Solution, build a **Group Support team** which acts as an external consulting enterprise to help each Company implement the Group Model
- **Timing** is important: the Group Architecture will be more positively accepted by the Company if the Deployment is decided when a Company really requires to change its existing Solution
- Even if the Group Architecture is efficient, the new Architecture will be reluctantly accepted by **Company Architects** who had promoted another Architecture: this problem must be identified and addressed as soon as possible
- Group Architecture must be a **subset** of potential Company Architectures and not a superset of them
  Example: do not try to define a complete data model at Group level: just define sharable Entities with their id and interrelations: Let Companies fill the data/ Except for Group Master Data which must be precisely centralized
- Define appropriate **indicators** to build the Report for Architecture Governance at Group or Company level.

6.7 How does a Company take advantage of Group Investments?

Deciding to Construct Group Shared Elements for Companies is one decision. Deciding, in a Company, to take advantage of the Group investment at the right time is **another** decision.

6.7.1 How does a Company take advantage of a Group Solution?

The Group decision to construct a Group Solution for Companies who Operate similar Activities can be obvious: Why Operate so many different Company Solution Models when Processes and data Models are similar?

But company Acceptance is not obvious:

- The Company performance is often evaluated by Group management based on its short-term profit: and this replacement is a **long-term investment** for the Company: the Group Solution must be **Adapted** (Solution customization, interfaces with Legacy System) then **Deployed** (data migration, training, configuration changes)
- The Company does not like to lose **autonomy**

- There is a fear that the group Solution does not **adapt** to local specificities: the Company will focus on what is different and not what is similar between Companies
- Will next versions of the Group Solutions accept customizations done in preceding **versions**?
- There is a fear that even if the Group Solution is good, the Company will be left to Adapt and Deploy the Group Solution **alone**

If the Business Functions brought by the Group Solutions are not better than the existing Solutions, there is little chance that decision will be taken by the Company: the high Project Cost is not always compensated by the reduction of Maintenance costs.

Thus this will only happen if:

- Group Solution brings Business Improvements and/or
- Group imposes the Transformation on Companies and plans each Company Deployment in its Global Road map.

The Company acceptance will be easier if Deployment is decided when the company really needs to change its Solution.
One key answer is: ask each Company to define its 3-5 year **road map** and check that each important investment decision takes advantage of Group Architecture. This means that the Company EA **Road Map decision** must involve **Group EA teams**.

6.7.2 How does a Company take advantage of a Group Architecture?

Transforming a Company Solution by reusing Group Architecture means rebuilding it.
The acceptance of Group Architecture by a Company is even more difficult than the Group Solution Acceptance.
To help decision:

- Prove efficiency of Group Architecture on a **Pilot** and **communicate**
- Group Architecture teams must **validate the Company Road Map** when it includes **large investments**. It will enable to identify elements which can become part of the Group Architecture and provide an opportunity to propose lower investments for same results thanks to Group Architecture
- Communicate towards Business Analysts: a powerful Architecture allows progressive requirements

7 FAQ

7.1 How Business Objectives are translated into Solution Model and Architecture Model

Business Objectives are split into 2 categories:

- **Operational** Objectives which are translated into Specific Solutions
- **Structural** Objectives which are translated into Shared elements: Architecture and Transformation Processes/Tools

Operational Objectives	New Processes implemented into Solutions
Reduce **time to Market**	Improve Product Transformation Process
Improve **Productivity** of a Unit	Optimize all Processes of this Unit
Use a new **Distribution Network**	Propose end to end Processes with partner

Structural Objectives	Architecture and Transformation Process/tools
Improve **Agility** and reduce Transformation costs	Use shared Models: maps, software Components New Transformation Processes and Tools
Improve **Security** level	Shared Security Function Data model which guarantees traceability
Improve **Worker** capacity to execute many tasks	Shared UI and navigation functions One WS per Worker
Better communication between Business and IT people	Common language Shared Maps Shared transformation processes

7.2 How to fund investments?

Headquarters fund their own Solutions. Each Company funds its own specific Solutions. The difficulty comes with Shared elements. The main question is how to fund investments?

1. **"Customer" rule**: Group Investments are only funded by Companies which **really use** the sharable Architecture.
2. **"Tax" rule**: Group investments to build a sharable Architecture are funded by an **internal tax system**: every Company pays for it even if they decide not to use the sharable part.

The **first** strategy is generally used to **start** a mutualization process: one or several Companies of the Group co-fund something they require.

The **second** strategy is generally used in a **second** step: if the new Solution brings visible value to pilot Companies, then the Group may decide to widen its deployment to other Companies. As an incentive to other Companies to join, minimize migration cost to facilitate decision.
The second strategy is also used when the Group decides to fund Architecture items and a new Transformation strategy.

Break down of Groups into Companies used to be "Geographic".
No, the trend is a migration towards international Companies operating:

- "**Products**" like Michelin (car tires, truck tires or guides) or Air France (passenger transport, freight transport, aircraft maintenance for other Companies)
- "**Processes**" like Total (Production, Distribution)

Another trend is to move towards more **Centralization**: EA costs have become so high, that Groups try to find ways to deliver economies of scale.

7.3 Must the Group check that the Company Model is individually good?

If the Group Architecture Model is powerful and good, then it is likely that the Solution Models are also good simply because they reuse the same Architecture.
So the main objective of the Group Architecture team is to bring support to each company, so that they take the best advantage of the group Architecture.
Group executives just monitor that Business indicators like growth and profitability are good and let each company adapt the Group Model without checking every Company Project in detail.
But if a Company refuses to use Group Architecture, for any reason, then a check should be done on its Company Model quality.

7.4 What happens if Architecture is inefficient or late?

Nothing is worse that a good strategy with a poor implementation.
The Architecture team checks that Solution Projects are well designed, but no one checks that Architecture Projects are well designed. There is a risk with lack of Architecture control. If Architecture is considered as a key asset, how does one control good execution?
Solutions decisions are checked by Solutions clients. As Architecture Clients are mainly Solution Project Teams, a check should be done by them that Architecture delivers the right expected value: agility, user interface standards, service quality…
One way to check the quality of the Architecture before end of the Project is via a **Pilot Project**: test it on a small scale before deployment.

7.5 Many people or few people in Committees?

Many people may attend if it is an information meeting.
Few people should attend if it is a decision meeting.
As Governance is for decision, there should be a small number of people involved in Governance Committees. It decreases the cost of decision and facilitates debates.
Some committees are still very crowded for 3 reasons:

- managers look for consensus: difficult to act against a decision when someone was part of the decision process
- it is also a way to motivate people: belonging to a decision committee is rewarding
- decisions are complex: if all people who could have reactions are present, the process is more secure

7.6 If people are hostile to change, what to do?

People do not like to change: it requires effort and people are lazy.
When a new Model is decided, reactions are always the same:

1. Positive people say: “This is a good decision; I was waiting for it for years.”
2. Negative people say: “It will never work, we already failed in another project. They do not understand the complexity.”
3. Other people wait for results.

The recommendation is the following:

- Inform everyone, but do not try to convince everyone before starting the project: it is impossible
- Test the new Model on a Pilot, before full deployment, with positive people who will help in difficult stages: the first implementation is the most difficult because the Solution is not stabilized and a new approach is being experimented
- If it is a success, the third category will join and the second will shut down

7.7 Must we define the present System in detail before any decision?

It is difficult to Transform a System if we do not know the Present and the Target Systems.
But the difficulty is to define the level of detail for defining the Present System.

The CEISAR rule is that you must not describe more than you need: if you intend to replace a Solution, just describe:

- The supported data: Business entities and attributes
- What Services it delivers to end users
- Interfaces with other systems
- (And not how it is done)

7.8 Which respective involvements from “Decider” and “Sherpa”?

As presented above, for each Governance decision, the Decider decides and checks deliverables, while the Sherpa prepares decisions, promotes decisions and follows up application of decisions.
The relative weight of “deciding” and “preparing” depends on personal Decider involvement.
There are 2 main cases:

- The Decider does not spend time on Model Governance; he or she is fully confident in the Sherpa who prepares main decisions; he or she decides based on reports provided by the Sherpa and just focuses on cost/value decision items
- The Decider spends time on Model; he or she wants to understand how the Model is built: the number of meetings, documents, exchanges is much higher

Do not apply an onerous decision Process in the first case.