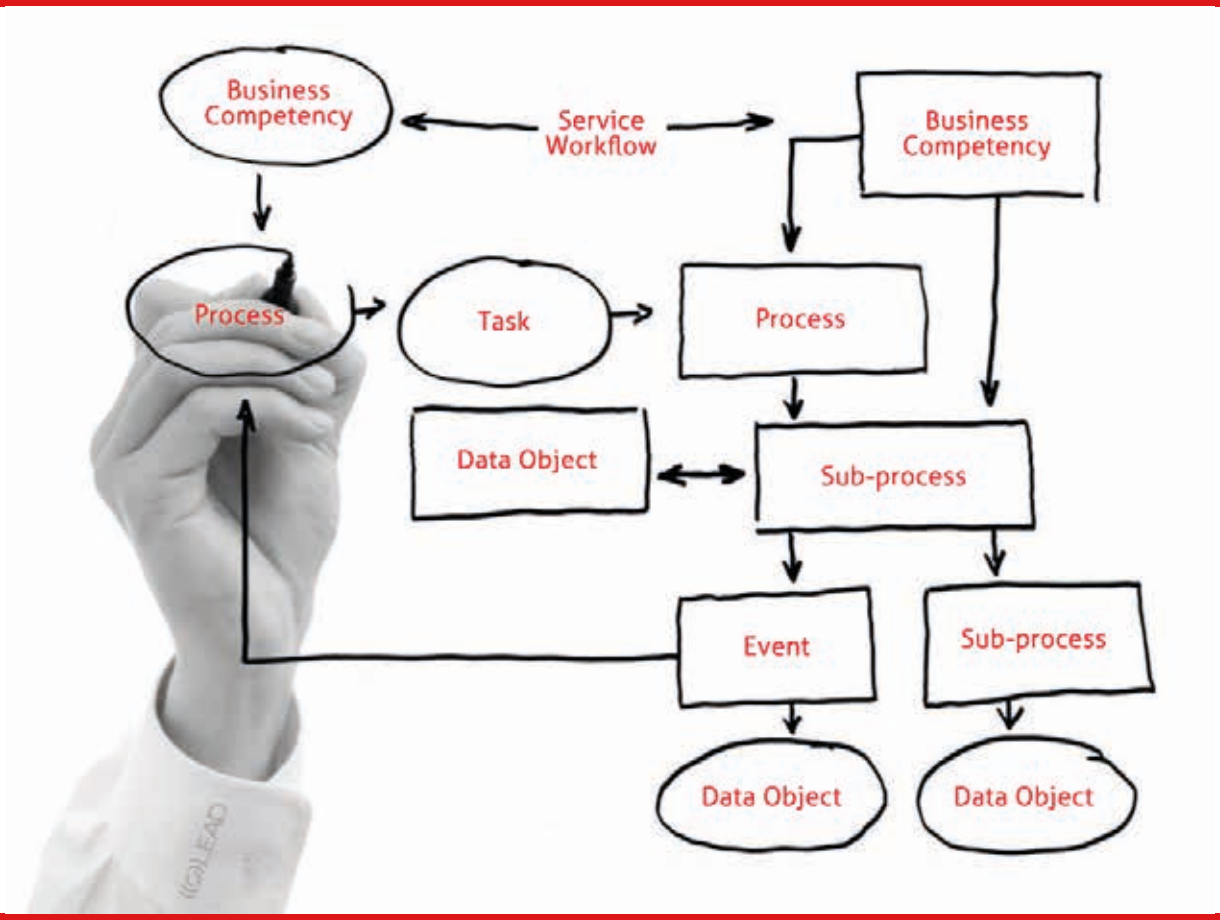
((o))LEADing BPM Practice

CASE STORY



LEGO Group's LEADing Practice and Best Practice journey that links strategy, business competencies and services with processes.

MARK VON ROSING
ANETTE FALK BØGEBJERG

In this picture, Mark von Rosing and Anette Falk Bøgebjerg show LEGO's Way of Thinking and Way of Working around Business Process Management.

The LEGO Group, famous for its Lego bricks, strives to develop children's creativity through play and learning. It recognized that BPM was important to create a platform for knowledge, collaboration and optimization. It also understood the importance of engaging with and educating business users about the use of BPM to overcome natural resistance to change. Its focus on BPM, managed internally by a core BPM team and BPM ambassadors, has improved its organizational agility and flexibility, created coherence across business processes, and established a strong foundation for continuous improvement.

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“In 1932 Ole Kirk Kristiansen, a danish joiner and carpenter, began making wooden toys.

The business he established later passed from father to son, and today the founder’s grandson, Kjeld Kirk Kristiansen, and his children own the LEGO Group.”

INTRODUCTION

Authors: Anette Falk Bøgebjerg and Mark von Rosing

The Story of the LEGO Group

In 1958 Godtfred Kirk Christiansen, son of Ole Kirk Kristiansen, made what would prove to be an extremely wise decision. On January 28, 1958, at precisely 13:58 he submitted a patent application for the LEGO® brick that was – literally – to prove to be the cornerstone of a toy fairy tale. At the start of the new millennium the LEGO brick was acclaimed "Toy of the Century" – first by Fortune Magazine and later by the British Association of Toy Retailers.

It was Founder Ole Kirk Kristiansen himself who hit upon the LEGO name in 1934. He took the first two letters of the Danish words LEG GODT, meaning "play well", and combined them – quite unaware that one meaning of the word in Latin is ... "I put together". To this very day "LEGO" is both the name and the concept behind the company. Play is a key element in children's growth and development, and play stimulates the imagination, the emergence of ideas, and creative expression. The aim of the company's products is to "inspire and develop the builders of tomorrow", and all products are based on the underlying philosophy of learning and development – through play. It is the LEGO philosophy that "good quality play" enriches a child's life – and lays the foundations for later adult life.

True to its motto "Only the best is good enough", the LEGO Group has been emphasizing the importance of high quality since 1932. This approach has brought consumers back to LEGO products time and again. At the same time the LEGO system means that many thousands of building elements can be easily combined in innumerable ways – and just as readily dismantled again. The more LEGO bricks you have, the more fertile your creativity can become, and there are hours of play in the LEGO brick that you don't find elsewhere.

Child's play is an ever changing world, and the company's product development departments therefore work systematically with the evolution of play themes and product lines based on research among children and parents into things like play habits, family patterns and housing conditions. In addition, the combination of a structured system, logic and unlimited creativity encourages the child to learn through play in a wholly unique LEGO fashion. At a time of growing demand upon children's capacity for learning and their ability to solve complex problems, the LEGO system is perfect for the child of tomorrow, and it is frequently cited by many leading organisations and individuals as a specially creative play material used in learning contexts by institutions and schools throughout the world. The child of the future will have plenty of things to play with.

Consumer electronics is a tough competitor to traditional toys. But the LEGO Group is in no doubt that the LEGO brick will continue in future to be relevant to children of all ages. A world of imagination and total absorption. Putting two LEGO bricks together is intuitive and delivers the spontaneous joy of creation which can be supplemented – but never replaced – by virtual experiences.

Today the LEGO Group is the third largest toy manufacturer in terms of sales:

1. Mattel
2. Hasbro
3. The LEGO Group
4. TOMY-Takara
5. Bandai-Namco

Fun LEGO® facts:

- LEGO® products are on sale in more than 130 countries.
- The LEGO Club has approx. 4.2 million members worldwide.
- On average, every person on earth owns 80 LEGO bricks.
- With a production of over 300 million tires in 2011, the LEGO Group is one of the world's largest tire manufacturers.
- If all LEGO sets sold in 2011 were stacked on top of each other, they would fill a football field (5,000 m2) to a height of 193 m – equivalent to a 58 story building.
- Eight LEGO sets are sold each second. During the Christmas season (weeks 49-51) almost 28 sets are sold each second.
- Laid end to end, the number of LEGO bricks sold in 2011 would reach more than 16 times round the world.
- If you built a column of about 40 billion LEGO bricks, it would reach the moon.
- In the manufacture of LEGO bricks the tolerance of the knob is 2/100 mm.
- Over the years, approx. 600 billion LEGO elements have been manufactured.
- In 2011 the LEGO Group achieved a global production of more than 36 billion elements – equivalent to approximately 68,000 elements a minute or 1,140 elements every second.
- In 2011 approx. 22 billion LEGO elements were made at the factory in Billund, Denmark – equivalent to approx. 2.5 million elements an hour or 42,000 a minute.
- In one week more than one million sets containing more than 230 million LEGO elements are packed at the LEGO factory in Monterrey, Mexico.
- The high-bay warehouse at the LEGO factory in Kladno, Czech Republic has 72 km of shelf space with room for 180.000 storage boxes with LEGO elements. The automated cranes in the high-bay warehouse can transport 600 boxes per hour.
- 2.5 million LEGO® DUPLO® elements are molded daily at the LEGO factory in Hungary – if you laid them in a line, it would stretch 42 km.
- In 2012 approx. 340 million mini-figures will be produced. If you put them next to each other in a line, it would stretch approx. 7,900 km – equivalent to the distance from Billund, Denmark to Dallas in Texas, USA.

THE LEGO SITUATION (SIZE, COMPLEXITY)

2011 was a year of continued strong growth for the LEGO Group, and the sale of LEGO® products grew considerably all over the world. The LEGO Group's revenue increased by 17% in 2011 to DKK 18,731 million against DKK 16,014 million the year before, and profit before tax amounted to DKK 5,542 million in 2011. The numbers of employees have also more than doubled on these 5 years.

Financial highlight – The LEGO Group:

Income statement (DKK mil.):	2011	2010	2009	2008	2007
Revenue	18,731	16,014	11,661	9,526	8,027
Expenses	(13,065)	(10,899)	(8,659)	(7,522)	(6,556)
Operational profit	5,666	4,973	2,902	2,100	1,449
Financial income and expenses	(124)	(84)	(15)	(248)	(35)
Profit before income tax	5,542	4,889	2,887	1,852	1,414
Net profit for the year	4,160	3,718	2,204	1,352	1,028
Employees (average number fulltime)	9,374	8,365	7,286	5,388	4,199

To be able to handle such a growth it is important to have standardized ways of working and standardized business processes.

“The LEGO Group aims for continued growth in sales. The foundation for this growth is a constant focus on the company’s core products and markets.”

THE LEGO GROUP COMPLICATIONS & CHALLENGES

The LEGO Group constantly endeavors to develop the way the collaborative work of all the departments within the LEGO Group comes together in a unique operational system to ultimately design, manufacture, plan, sell and distribute products to customers and consumers. This is called the "Operating Model".

On top of the development of core products and the Operating Model these initiatives have been defined as growth drivers:

USA

USA is the world's largest market for toys. The LEGO Group has dramatically increased its market share in recent years to approximately seven percent at the end of 2011. The LEGO Group has an ambition to further increase the market share in the coming years.

Russia/Visegrad

The toy market in Russia and the Eastern European countries (Visegrad) has been experiencing rapid growth. The LEGO Group aims to continue to expand its strong position in these markets.

Asia

Markets in Asia are expected to see strong growth in the future. The LEGO Group plans to invest further in developing business in China and the rest of Asia.

"Direct to consumer"

The LEGO Group currently has direct contact to consumers through its own sales channels, clubs, collaboration programs, etc. The aim is to offer even more opportunities for consumers to interact with the LEGO® Brand.

New concepts

In addition to ongoing product development based on the existing core portfolio, the LEGO Group will develop innovative new products which are "obviously LEGO products, but never seen before".

Pre-school

The LEGO Group aims to continue to expand its strong position within the Pre-school construction category.

New consumer groups

LEGO Friends was launched in 2012 as one way of attracting more girls to LEGO products, and the LEGO Group will continue to develop its position within the Girls category.

THE LEGO GROUP BPM DESCRIPTION

The BPM Vision

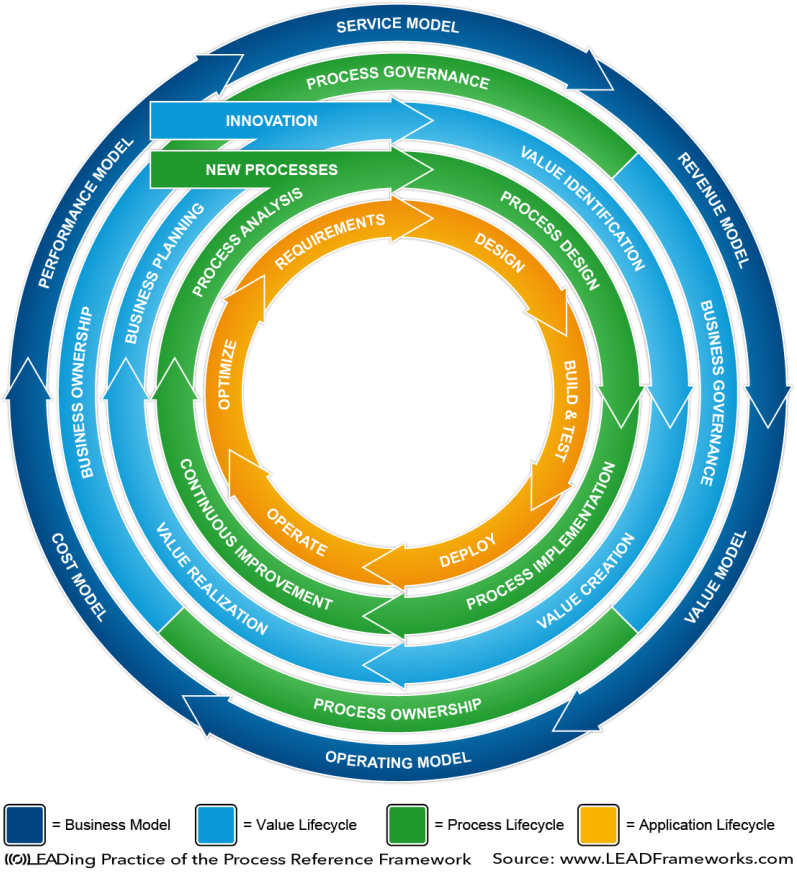
The BPM vision has been to support the LEGO Groups growth path and ensure the operational execution by standardized ways of working and standardized business processes. Supporting the LEGO Groups continuous growth by focusing on a standardized Revenue Model, Service Model and Operational Model. The aim for operational excellence was supported by focusing on standardizing the Performance Model, Value Model and Cost Model.

PREPARE FOR THE FUTURE: ESTABLISH PROCESS DOCUMENTATION

Process documentation may sound boring but the benefits from having processes documented are definitely not. Process documentation can be considered as an extremely valuable vault of knowledge, guidance and helping hands.

Several thousand new employees will join the LEGO Group in the coming years and at the same time a large number of employees with a total amount of hundreds of years of experience will say goodbye. But who will ensure that the knowledge the old and experienced employees have about the LEGO way of doing things, is brought on to the next in line? And what if an employee suddenly gets a tile in the head and this person is the only person who knows how to solve a specific LEGO task – what then?

This is where process documentation comes to the rescue. Process documentation is about retaining knowledge. It is like plugging a USB stick into the minds of experts and downloading their relevant LEGO knowledge and experience. Once knowledge is captured, it can be shared in a structured approach.



When processes are not documented, new employees must search for information on how to do their jobs. New employees will fill in the blanks themselves and define their own processes – all factors which could limit their ability to execute the job and increase frustration. Without documentation, there is always a risk that people will execute the process differently; different techniques, costs, turnaround time, etc. may yield different results. By defining a "best practice", we define the standard for performance. This is actually quality assurance of the process that ensures that the process creates the same process output (Quality) at the same time and price.

When a process has touch points to other processes there is a risk that things might end up in a gray zone where neither process stakeholder takes ownership for a given task or tasks. One part of the process expects the other part to do something and vice versa. In this case process documentation can help as an eye opener and a communication tool to strengthen the agreement between two processes.

Documentation of existing processes provides a foundation for continuous improvement. If the improvement does not have the desired effect the documentation should be used to fall back on while capturing the learnings from the trial. Does the improvement have a positive effect it is important to document the new standard ensuring that the process documentation is updated at any time.

Three reasons to document processes:

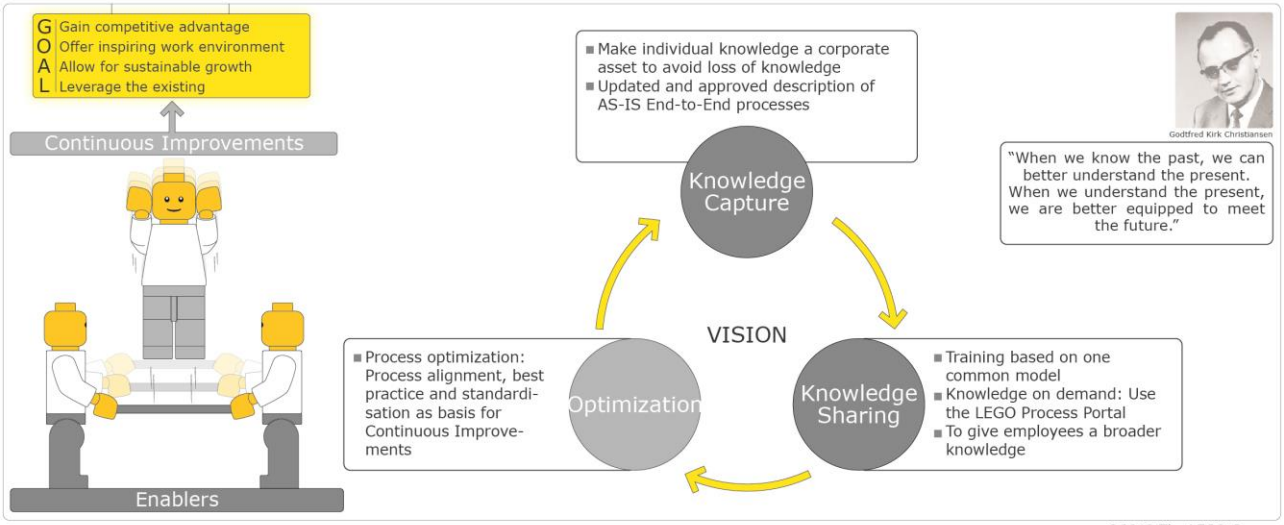
1. Capture knowledge
2. Share knowledge in a structured way
3. Establish a foundation for process optimization

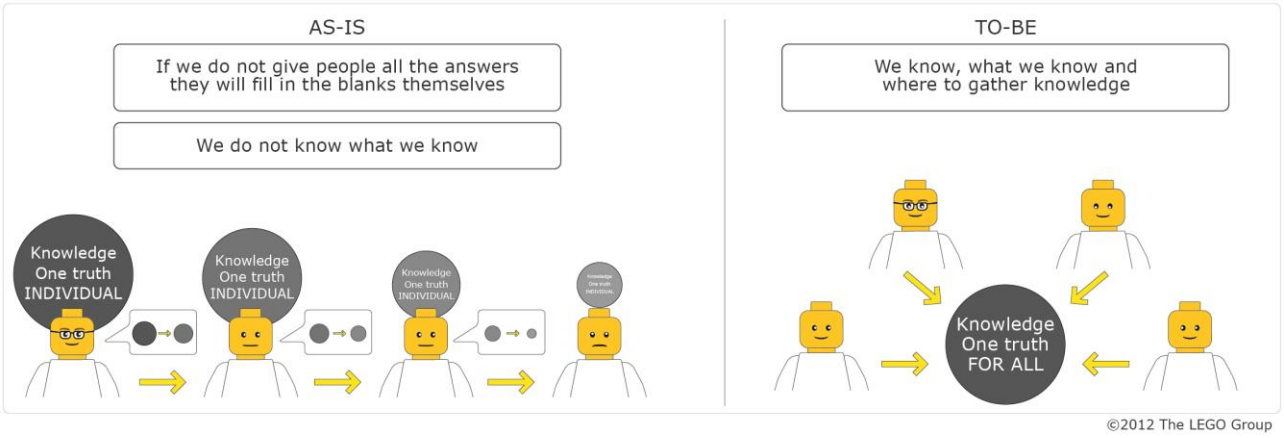
New employees at the LEGO Group are often trained in the LEGO way of doing business through on the job training. This approach, however, is subject to risk of losing knowledge in the handoff. In some cases bad habits and bad knowledge is passed on to the new employee meaning that it is not always the correct knowledge which is transmitted and therefore it is not necessarily the smartest way of working which is passed on from and old employee to new employee. When knowledge is not found in a structured form it means that the employee is dependent on others' knowledge and their availability. The LEGO Group is about to employ several thousand people worldwide over the next number of years and there is a big risk that they do not know who to contact to get the piece of knowledge they are looking for, and it is a huge challenge.

Therefore, the LEGO Group wants to create a platform where knowledge is captured in a structured and uniform way across the entire LEGO Group. The platform should be available to all employees at any time and if the employee wants to have deeper knowledge about a specific subject/process then the employee will be given the correct contact person/process owner at any time.

”When we know the past, we can better understand the present. When we understand the present, we are better equipped to meet the future.”

Godtfred Kirk Christiansen





Godtfred Kirk Christiansen, son of the founder Ole Kirk Kristiansen once said. "When we know the past, we can better understand the present. When we understand the present, we are better equipped to meet the future" - and this is basically what process documentation is all about. To create a foundation which tell us how we work today so we can prepare for the future and future challenges.

The BPM Initiative

The standardization and automation of the business processes was the objective to document the business processes with the LEGO Group. Aimed to create a solid platform of knowledge as set by the executive management of the LEGO Group. This project is called Polaris (after the guiding star Stella Polaris). The time horizon for the Polaris project is about 2 ½ years, equivalent to around 1700-2000 processes on a global level.

This project is rather challenging, not because it is a very complicated project to lead, but because the project is up against a corporate culture that is not used to document and discipline themselves, and a culture that would rather focus on new things and new initiatives, rather than ensuring that all documentation and anchoring is in place. It is therefore essential to make a huge effort to get the organization to understand why it is important to document business processes.

To succeed with such a project, the following things are important to have in place:

- Anchoring in and support from top management.
- Process Experts and process designers that can help the business.
- Communication material that focuses on the value of process documentation seen from the business point of view.
- User-friendly IT tool to ensure uniform documentation.
- A set of global conventions for process documentation.

And finally, persistence, persistence AND persistence.

The BPM Approach

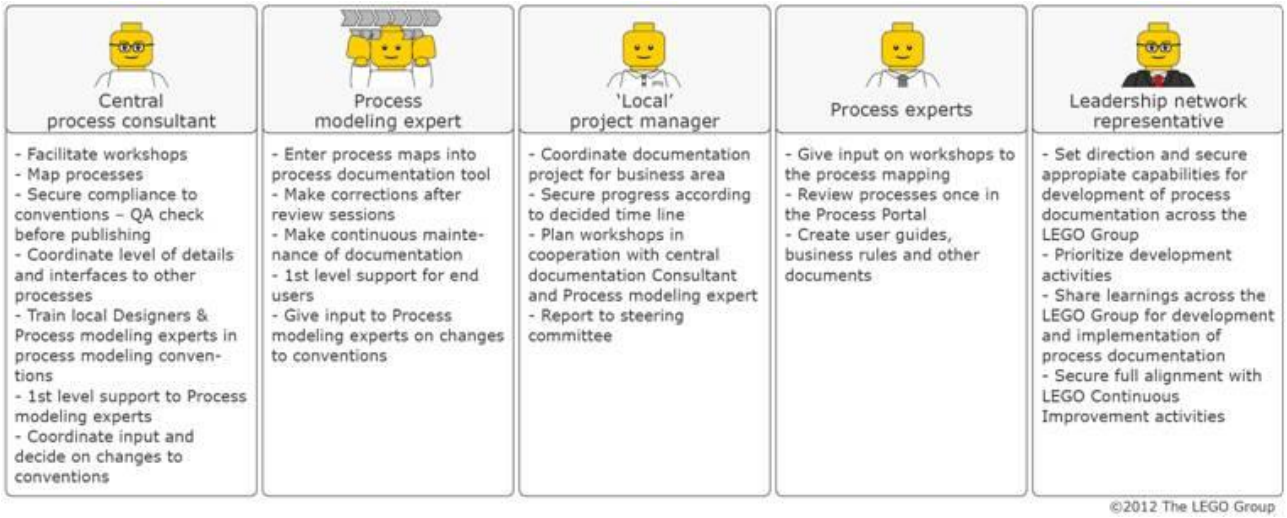
THE ORGANIZATIONAL SET UP

The process documentation project is anchored in the executive management as it is a cross-organizational project.

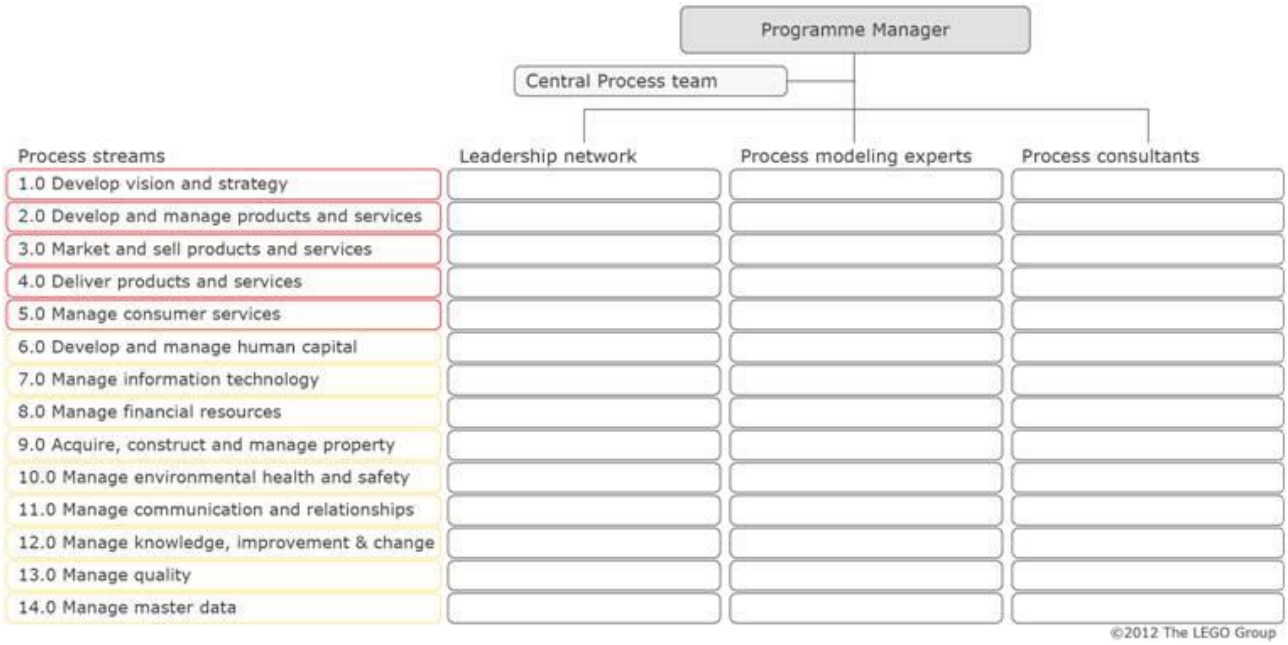
The project is organized with the following key roles:

- Process consultants who are experts in identifying processes and have broad knowledge of business processes. These resources are organized in a central team.
- Process modeling experts for each high level process stream that are responsible for documenting and maintaining the processes in the process stream. These resources are organized in the business.
- 'Local' project managers for each business to ensure resources to create documentation, report progress and challenges to the 'local' management and the core team.
- Process experts who provide input on how as-is processes are executed.
- Leadership representatives from the various process streams may participate in a leadership network where the direction for process documentation is set across the entire company.

The different roles are described here:



The project organization:



The project is organized based on a process approach and not on a functional approach. This gives rise to a lot of positive discussions across the organizational units around which processes each area of the organization are responsible for and discussions on where a process ends and where another one takes over and whether it goes across departments.

The project covers all processes of the LEGO Group which provides a certain degree of complexity. The complexity consists of:

PROCESS ANALYSIS:
There already exists some documentation in the company which all makes sense for the areas that produced it. All this documentation should via the project be standardized and changed to the global standard for documentation in the company.

PROCESS DESIGN:
There are many wishes for how the conventions should be defined, and what the documentation platform should look like. The desired "to-be" where deriving from everywhere and must be handled and decided upon. Each time a change is decided all areas are affected by the change as the documentation platform is global.

When all processes are documented it becomes possibility to link processes together across the enterprise from end to end perspective which requires that level of detail of the documentation is the same across the enterprise.

PROCESS IMPLEMENTATION:
Documentation is a discipline in itself, and is a competence which has been built into the LEGO Group throughout the project lifecycle. It is important to ensure that everyone who is mapping business processes is doing it in a uniform manner and that they are constantly updated on the latest version of conventions.

PROCESS MONITORING:

It is a long journey when it comes to communicating process documentation to all employees in all areas of the business. Therefore it is essential to have process documentation ambassadors placed strategically around in the organization. These should be prepared to talk and drive process documentation in the various business units.

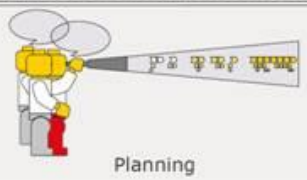
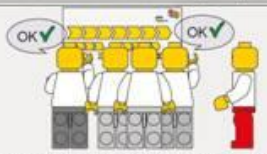
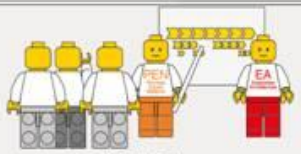
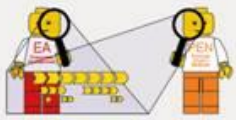
To handle this complexity two networks and a core team have been established. In the process designer network the process modeling competence and the ambassador role is being grown. The leadership network sets the direction for process documentation across the enterprise and acts as an ambassador on a higher level. The core team ensures quality, coordinates and develops the project across all process streams. The core team is the glue that holds it all together.

Establishment of Process Documentation

Once you have started to create process documentation there are a series of phases you need to go though. All phases are unique and require different kinds of attention.

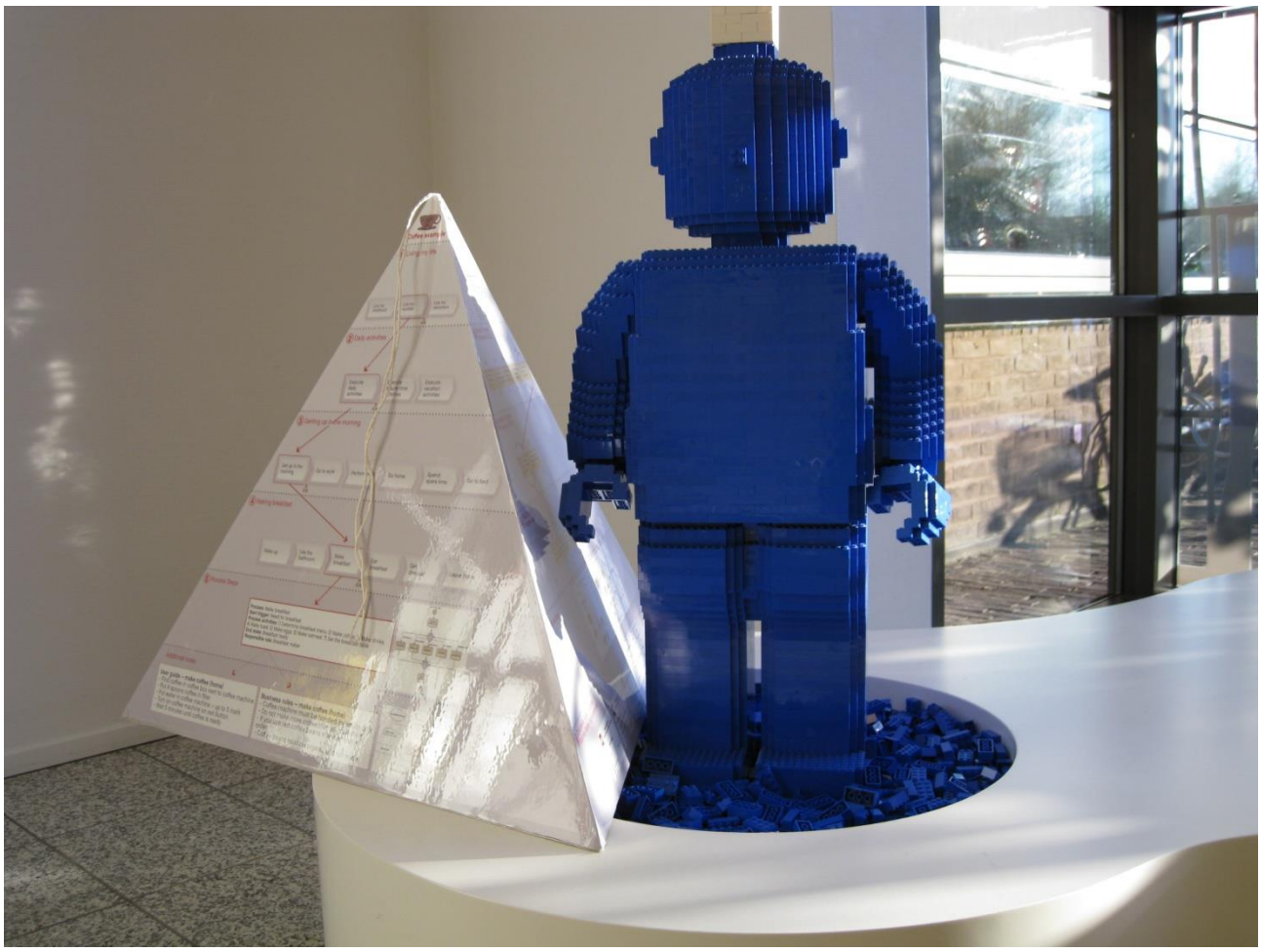
The phases you need to go through are:

- Communicate to the entire organization to convince them that it is a good idea to establish process documentation.
- Define the process structure (Level 1-4).
- Plan and book resources to create process documentation based on the process structure defined and agreed upon.
- Conduct workshops where processes are mapped together with process experts.
- Identify operational documentations to support the processes.
- Review the process mapping in a wider forum than those who have participated in workshops.
- Appoint a process owner for all documented processes and allow the process owner to approve the final documentation.
- When a set of processes are mapped a rollout / training session plan must be created. The aim of the training is to ensure that all relevant process stakeholders are introduced to the process owner approved process.
- Make continuous updates to the process documentation.

1  Convince	**Purpose**	Convince the business managers that process documentation is a good idea and worth the effort
	Actions	Introduce process documentation in leadership teams and departments etc.
	Tools and documents	Vision poster – mission / vision / elevator speech / target groups and Pyramid showing the process levels
2  Verify process structure & define scope	**Purpose**	Agree on exact documentation scope
	Actions	Decide process structure level 1-4, estimate resources, prioritize processes and make overall plan
	Tools and documents	Standard process framework, model, key figures for resource estimates and prioritization criteria
3  Planning	**Purpose**	Make detailed plan for process documentation for a specific area in close collaboration with line management and personnel
	Actions	Decide on resources to be educated as Process modeling expert and plan process going forward – start date, end date, key resources etc.
	Tools and documents	Process modeling expert competence profile and process convention/process tool
4  Process documentation & quality assurance	**Purpose**	To document AS-IS processes
	Actions	Introduce process structure, perform brown paper exercise with relevant process owners and experts, document the AS-IS process in the process modeling application, review the process and get process owner approval
	Tools and documents	Brown paper, sticky notes, Process documentation tool, LEGO Process Map
5  Documentation and review sign-off	**Purpose**	Review of accuracy of processes and complete transformation of documents in scope
	Actions	All locations to be involved in the sign off and Handover to Process owner
	Tools and documents	Process documentation tool
6  Roll out	**Purpose**	Initiate the roll out of the new process management and documentation system in the department by publishing and making the system available
	Actions	Perform training of personnel while receiving and incorporating feedback
	Tools and documents	Close down existing document management system
7  Governance	**Purpose**	Secure process documentation is updated at all time
	Actions	Review by process owners and audits executed by LEGO internal auditors
	Tools and documents	Auditor training

A lot of effort was put into the first phase 'Convince' to create an understanding in the organization of the purpose of process documentation and to get commitment from the different management level to the project. The central process team took the 'road show' approach using no 'PowerPoint' and instead using the 3D model of the pyramid and big posters put onto cardboard.

All sessions starts with an introduction to why we are establishing process documentation and a poster with the picture of the three circles (capture knowledge, knowledge sharing and process optimization) and the AS-IS and TO-BE situation is used. After this introduction the pyramid is introduced.



The four sides of the pyramid showed the process levels with different examples. One side of the pyramid showing just the simple structure of level 1-6. The purpose of the side is to introduce that process documentation in the LEGO Group consists of 6 levels and level 1-3 is pre-defined through the standard process framework.

The second side showing a practical example of taking the level 1 process called 'Living my life' and decomposing that into sub-processes through the levels. For this side a small exercise is always conducted where the participant is asked to make some notes to 'what do you do from you get up in morning until you go to work'. The participants are then asked to share their notes. This small exercise always shows how different the level of details in their processes is. Exactly the level of details and aligning the level of details across the LEGO Group is a real challenge.

The third side shows an example for level 1-4 from the standard process framework. This example is included to show what the standard process frame work will bring and that it is very easy to relate to.

The bottom of the pyramid shows the processes at level 1. The purpose of this side is to introduce the thinking behind level 1 with operating processes and supporting processes.

After the introduction of the pyramid a poster with the 7 steps to establish process documentation is introduced. The purpose of this poster is to give the organization an idea of what is takes and what to do when they need to establish process documentation.

The advantage of this kind of introduction is that you get a great dialogue with the organization, you build the network to come back to when you need to get resources committed and you get a chance to address any concerns very early in the process.

The Process Structure

The LEGO Group has chosen to document the processes based on a process structure which has 6 levels. In order to speed up the process of establishing the first version of a process structure the LEGO Group decided back in 2010 to build the top down structure upon a standard process framework which should help to classify and group processes from level 1-3. On level 4 it was up to the LEGO Group to define the processes and as time has passed the level 2 and 3 becomes more and more adapted to the LEGO Group.

When the business becomes more and more process mature the process structure can be adjusted accordingly. The places where the framework either did not fit particularly well or was not complete the process consultant defined the process structure in cooperation with the leadership teams in the business.

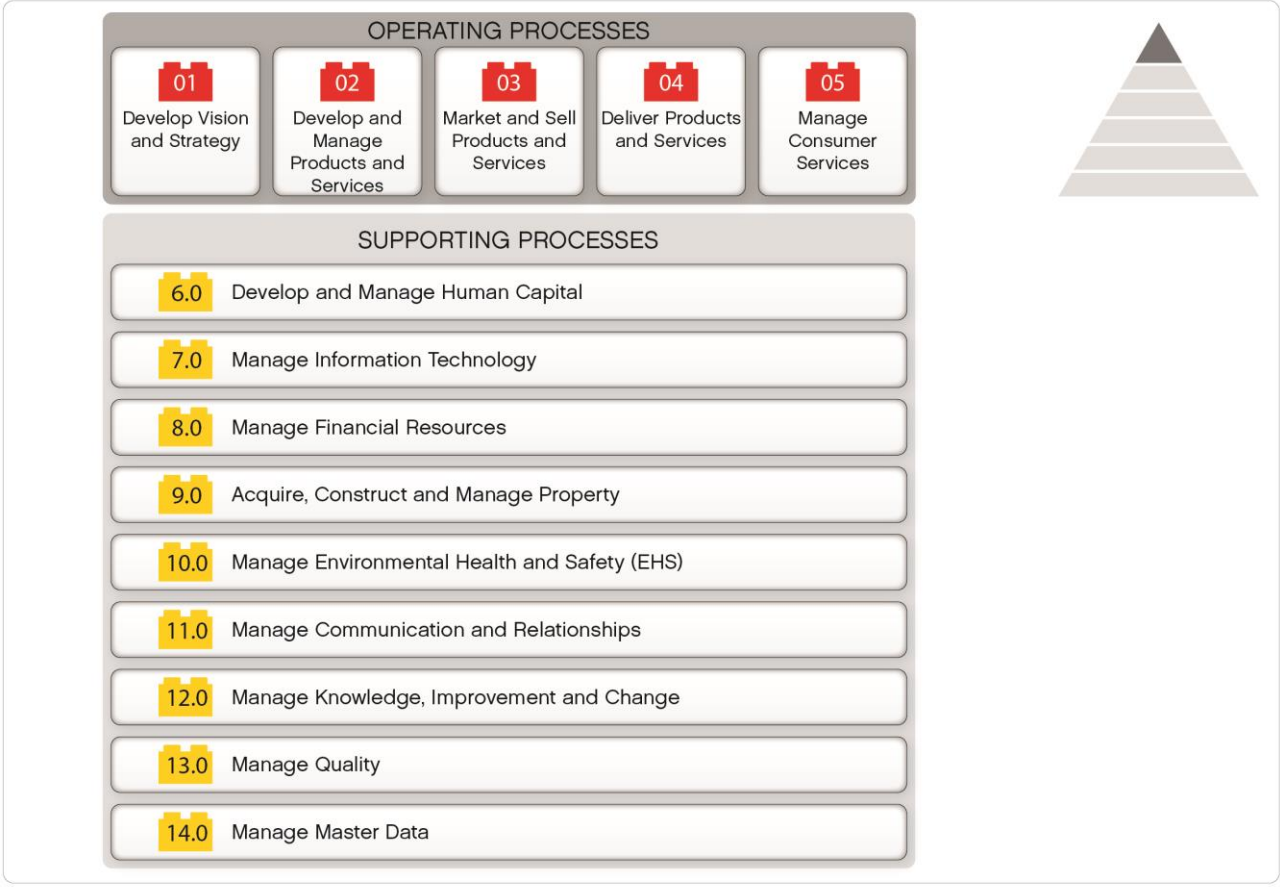
“In an organization that is not very process mature, it is an advantage to use this kind of standard process framework to obtain speed and progress.”

In order to ease and simplify the communication concerning process documentation and process structure the LEGO Group built a set of 3D pyramids to explain what and how the 6 levels are used. The LEGO Group has documented around 2000 processes at level 5 and without a process structure (level 1-4) to divide and sort these 2000 processes, it would be an impossible task to find a specific process. At level 5 all the activities, input, output and interfaces are mapped. At level 6 all the details related to each of the activities at level 5 are documented like IT application and transaction code used to perform the activity, the user guide/work instruction to perform the activity and the where relevant business rules to the activity.

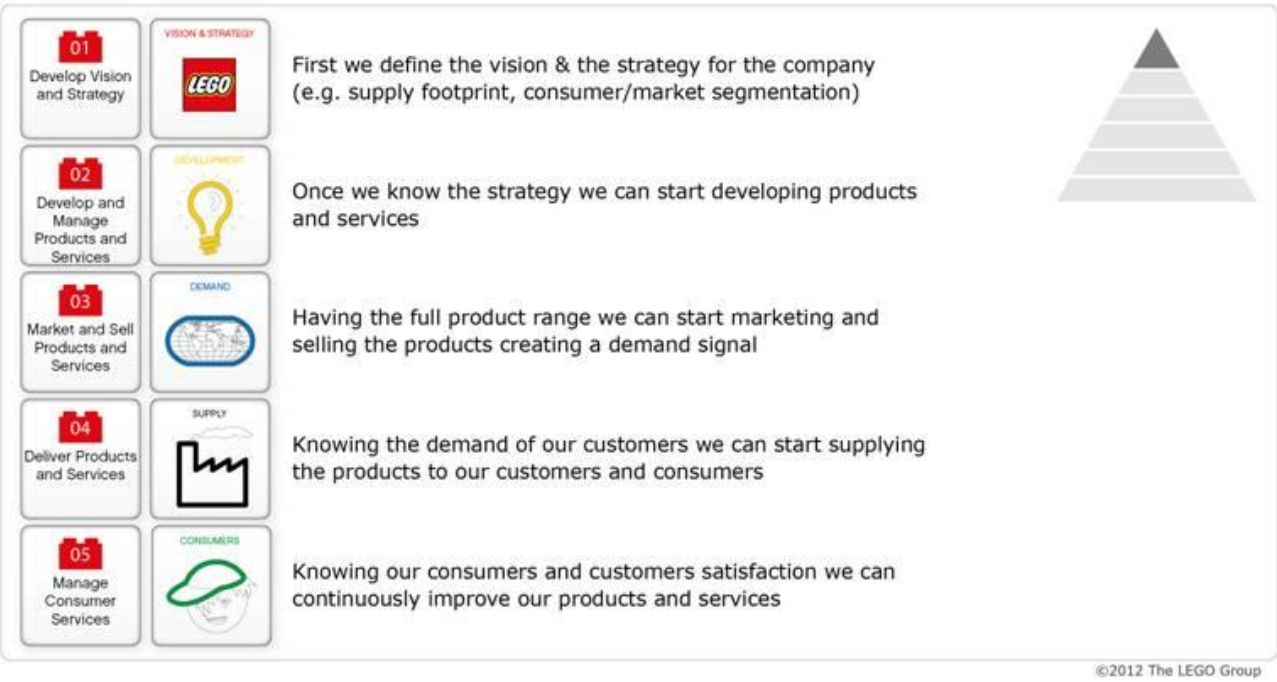
The level 1 processes consist of operating processes and supporting processes. The operating processes show the primary value chain of the LEGO Group whereas the supporting processes are the processes needed for the primary value chain to operate as smoothly as possible.

Below each of the operating processes at level 1 you will find all the processes that support the primary value chain e.g. in '2 .0 Develop and manage products and services' you will find all the processes needed to develop and manage a product and a service portfolio.

Level 1 processes in the LEGO Group are:

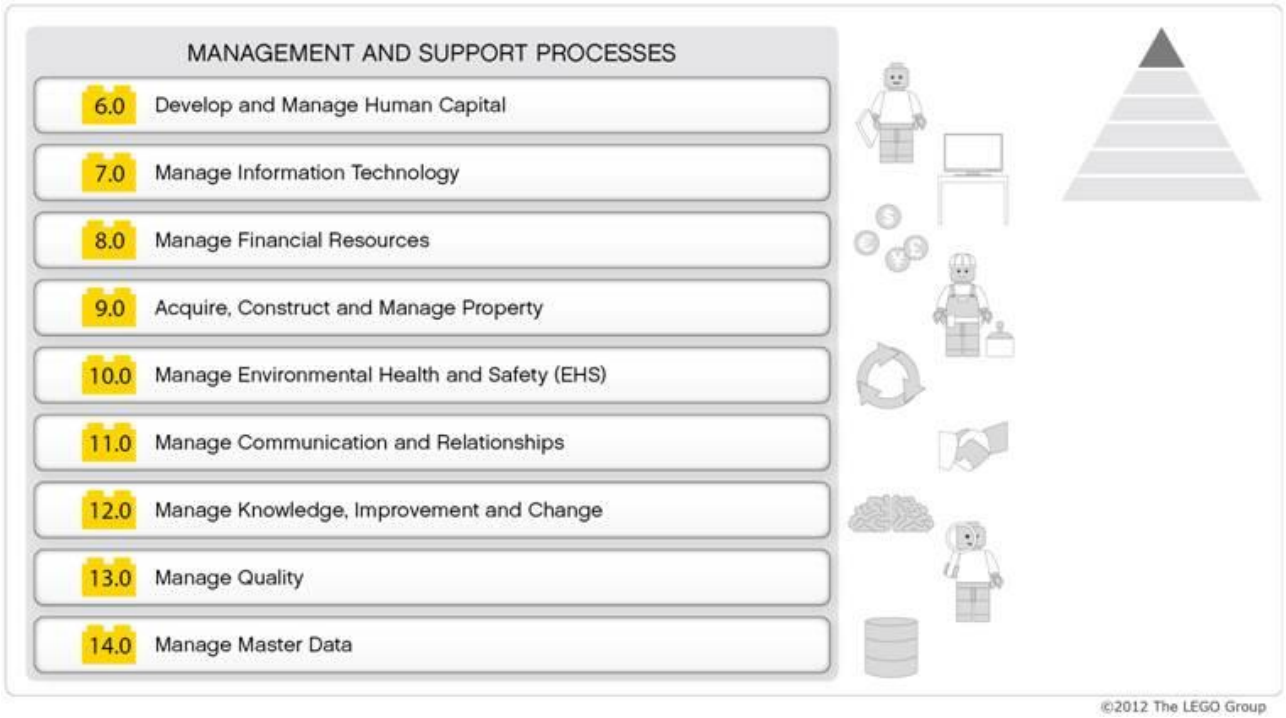


The explanation to each of the operating processes is:



The support processes are basically ensuring that the primary value chain processes function properly. Support processes are "invisible" to customers and consumers.

Support processes are:

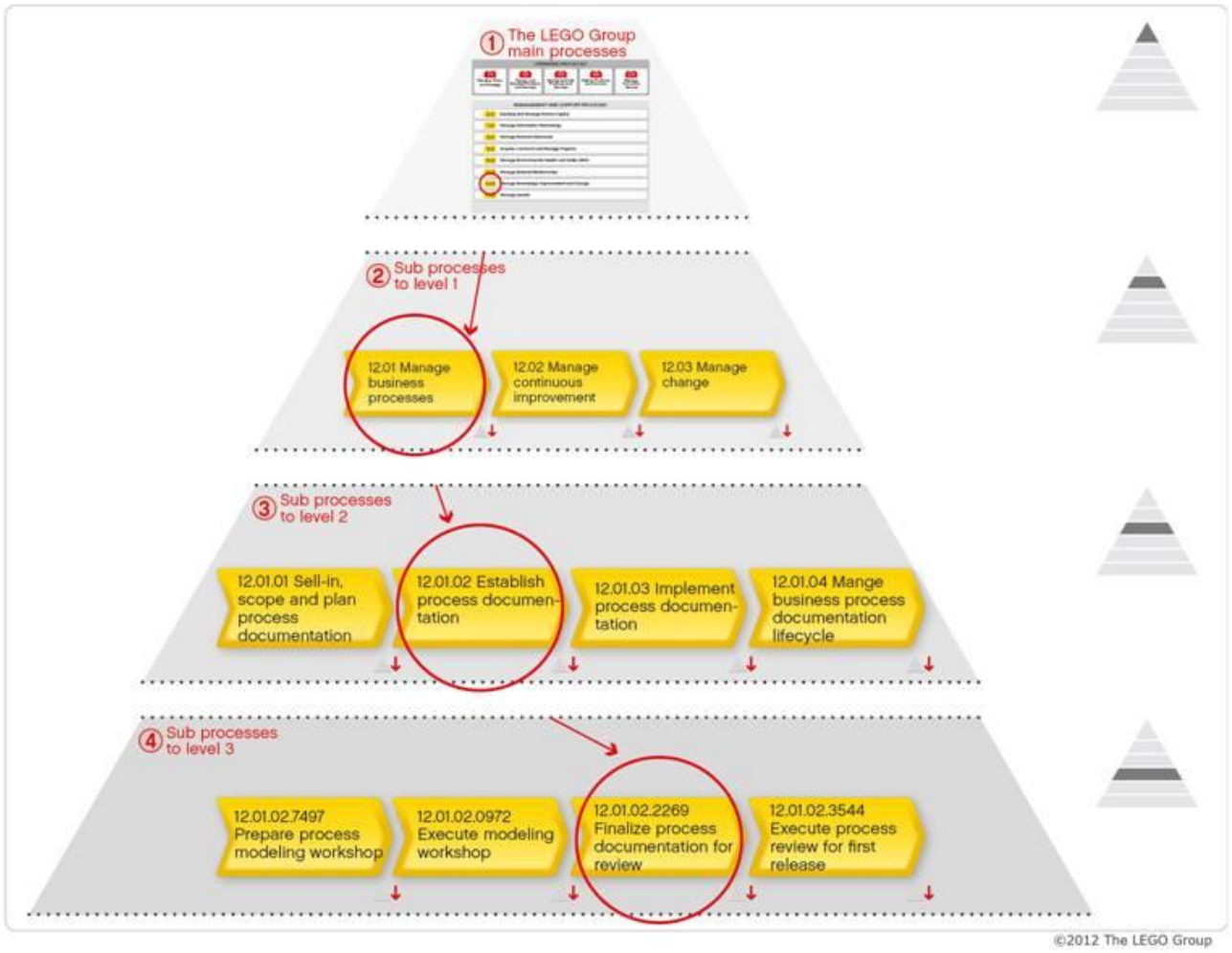


Example of the Process Structure

The processes which are used to establish and maintain process documentation in the LEGO Group are of course also documented and can be used as examples of what both process structure and process diagrams look like. All processes linked to Business Process Management are in process stream 12.0 Manage Knowledge, Improvement and Change.

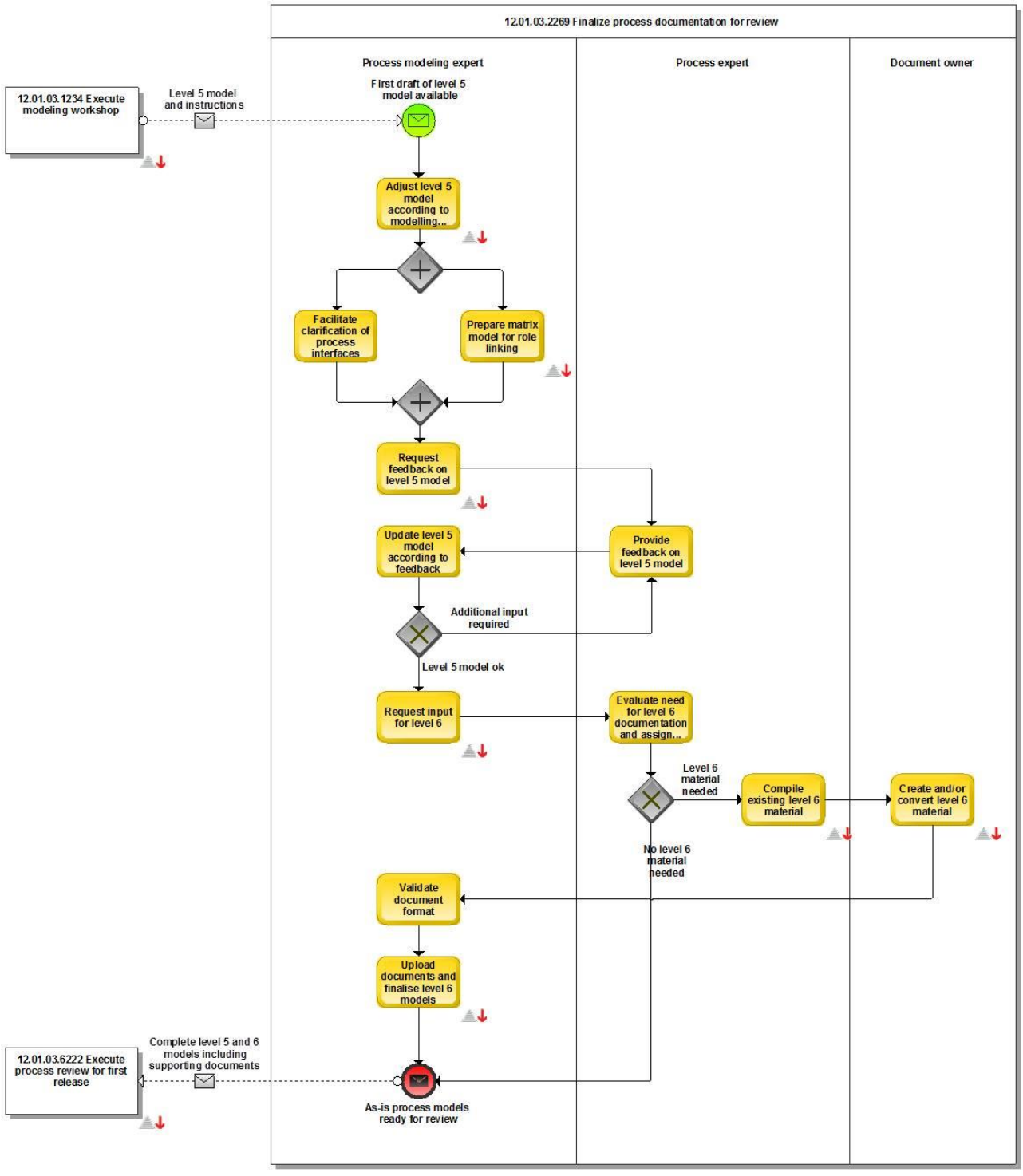
At level 2 you will find a process for each of the areas of business processes, continuous improvement and change. Decomposing the process 'Manage business processes (12.01)' you will find four sub-processes at level 3. Each of these four sub-processes can again be decomposed to level 4 processes. Decomposing 'Establish process documentation (12.01.02)' you will find four processes at level 4.

The process structure:



Each of the level 4 processes can be detailed even further and at level 5 you will find a BPMN diagram showing all the activities in the process, the input to the process and the output of the process. The level 5 process will also show where and when in the process the activities are interfacing to other processes or roles (the collapsed pool). The level 5 process is mapped in swim lanes to show the activities of each role.

The details at level 5 for the process 'Finalize process documentation for review (12.01.02.2269)' is:



To be able to execute each of the activities further details will be found at level 6. At level 6 details for IT application, transaction code, and user guide for that transaction code, business rule and other relevant documentation for that specific activity can be found.

In the swim lane for the role 'Document owner' there is an activity named 'Create and/or convert level 6 material'. The level 6 documentation for this activity will e.g. be the business rules used for creating the level 6 documentation in all processes or the quick guide to find documents in the document repository. See examples below:

Business Rules

For the use of document templates

Revision History

Version	Status	Rev. date	Description	Changed by
0.1	Draft	2012-02-06	New document	DKKARHAN
1.0	Released	2012-02-08	New document	DKKARHAN
2.0	Released	2012-10-19	Added cross-reference to a quick guide	DKKARHAN

1. When to use document templates

This business rule will describe when to use document templates.

1.1 Creating a new document using a template

When creating new documents for ARIS process documentation you must start with a template from the POLARIS homepage. Before choosing a template you need to consider which type of document you need to create.

1.2 Changing an existing document using a template

When changing an existing document for ARIS process documentation you must make sure that the document is valid. Add the mandatory parts described in the quick guides depended on the type of document:

- Include mandatory parts into existing Excel documents
- Include mandatory parts into existing Power Point documents
- Include mandatory parts into existing Word documents

Quick Guide

Find a document in the Document repository

1. Find a document in the Document repository

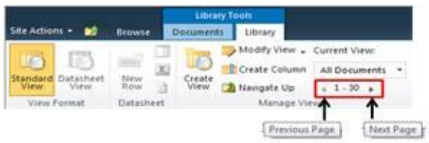
There are several ways to find a document inside the Document repository:

- Using the folder structure
- Using the column header sorting

and to find documents which share characteristics e.g. document owner. Apply filtering and/or specialized views:

- Using the column header filtering
- Using one or more Key Filter(s)
- Using specialized views
- Using Search

To get from page to page with documents - open the Library tab - under Current view - press the arrows for Previous or Next page



1.1 Using the folder structure

Global Conventions

The LEGO Group has chosen to define one set of conventions that cover the entire organization. The advantage of defining global conventions is that you are able to tie processes together across the organization from one end to another and by that create end-to-end processes.

“The LEGO Group has chosen to use a standard process notation called BPMN (Business Process Modeling Notation), and out of the wide range of symbols in BPMN, the following symbols have been selected:”

Symbol	Group	Type	Description
	Activities	**Task**	A task is a unit of work, the job to be performed
	Activities	**Sequence flow**	Defines the execution order of activities
	Swim lanes	**Pools and lanes**	Pools (participants) and lanes represent responsibilities for activities in the process
	Swim lanes	**Message flow**	Symbolizes information flow across pool boundaries. Message flow can be attached to pools, tasks or message events
	Data	**Message**	A message depicts the content of a communication between two participants
	Gateways	**Exclusive gateway**	Split = Routes the sequence flow to exactly one of the outgoing branches. Merge = Awaits one incoming branch to complete before triggering the outgoing flow.
	Gateways	**Inclusive gateway**	Split = One or more branches are activated. Merge = All active incoming branches must complete before triggering outgoing flow.
	Gateways	**Parallel gateway**	Split = Activates all outgoing branches simultaneously. Merge = Awaits all incoming branches to complete before triggering the outgoing flow.
	Events	**Generic event**	Un-typed events indicate start point (start), state changes (intermediate) or final states (end).
	Events	**Message event**	Receiving (start, intermediate catch) and sending (end, intermediate throw) messages.
	Events	**Timer event**	Cyclic timer events, points in time, time spans or timeouts (start, intermediate catch).
	Events	**Parallel multiple event**	Catching all out of a set of parallel events (start, intermediate catch)

The Process Lifecycle

To have control of the process lifecycle is essential for the LEGO Group's ability to control the quality and efficiency of processes. A change to a process starts and ends at a LEGO employee. An employee sees something that can be improved in a given process which may be due to an identified error, a desire to do things differently or a good idea. The proposed improvement or good idea is sent to the process owner and subsequently evaluated together with the process modeling expert and business process experts. Once a proposal is approved, the process documentation needs to be updated before the change to the process can be implemented.

As a part of the implementation of the process change the relevant LEGO employees will be informed of and trained in the new process using the process documentation. After having trained the employees in the new improved process, it is possible to follow up on the desired effect by using already defined measures for the process. If the desired state is not met, another change can be made to the process which again must be maintained, implemented and measured.

The circle is complete.

Process Governance: Ongoing Maintenance of Process Documentation

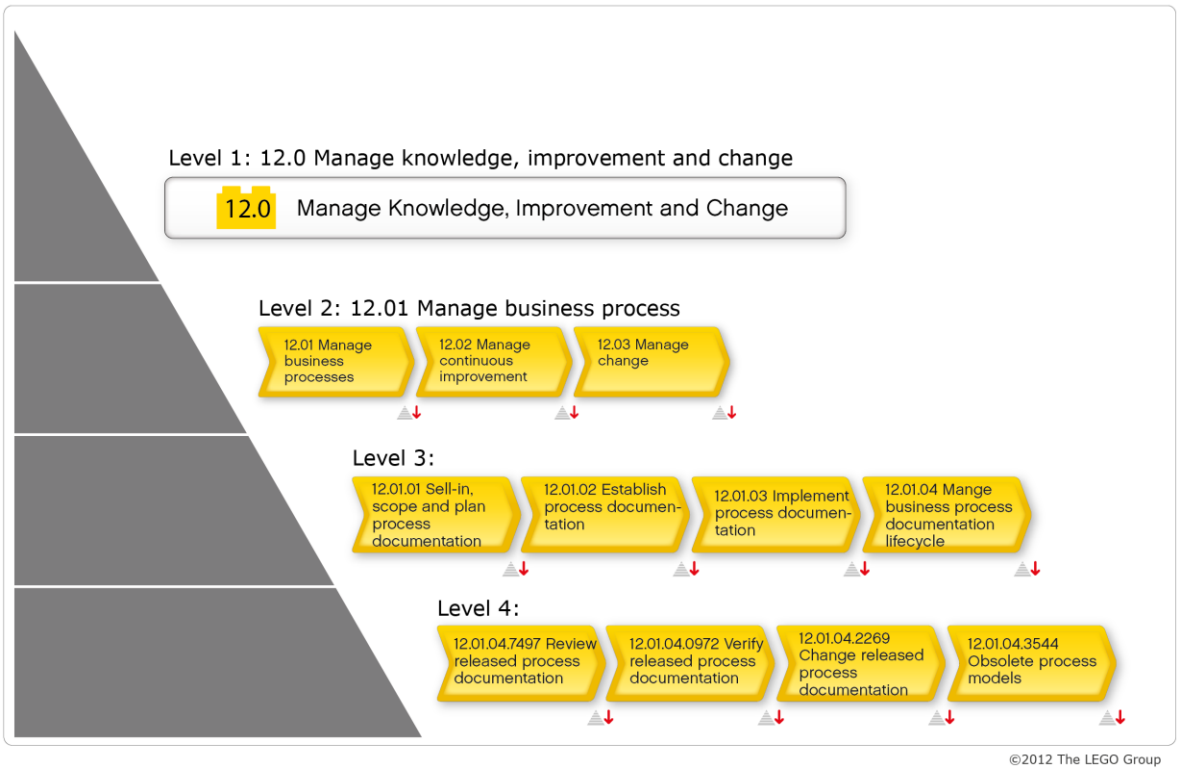
It is important to ensure that a process change also changes the process documentation and thereby the standardization accordingly - this again to ensure that the documented processes at any time are up to date. To be able to handle this, a set of processes which provide formal and controlled forms of evaluation, approval and implementation of process changes are created.

To ensure that the process documentation at any time is updated, it is important to have the following in place:

1. Processes for how process documentation is updated at anytime.
2. Process owner for all processes.

The LEGO Group has defined two sets of processes for ensuring the process documentation is kept updated:

1. Annual review of the documented processes by the process owner, which support the value lifecycle of planning, identification, creation, realization, ownership and governance.
2. Every three years the documented processes are verified through an audit-like process where it is verified if the way in which the process is executed is in line with what has been documented. Any discrepancies must either change the process documentation or the way the process is actually being performed. These processes are naturally documented as part of the process documentation and are available in "Management business process documentation lifecycle (12.01.04)".

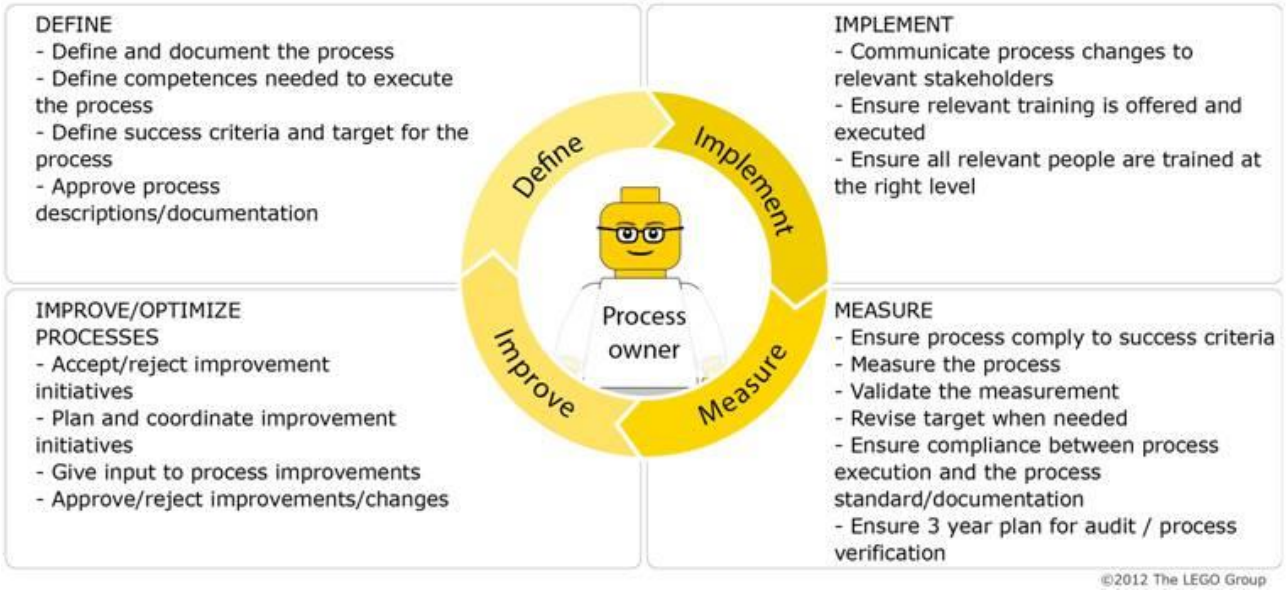


Process Ownership

Process Ownership is a very important element of the BPM journey. The mission of the process owner at the LEGO Group is defined as:

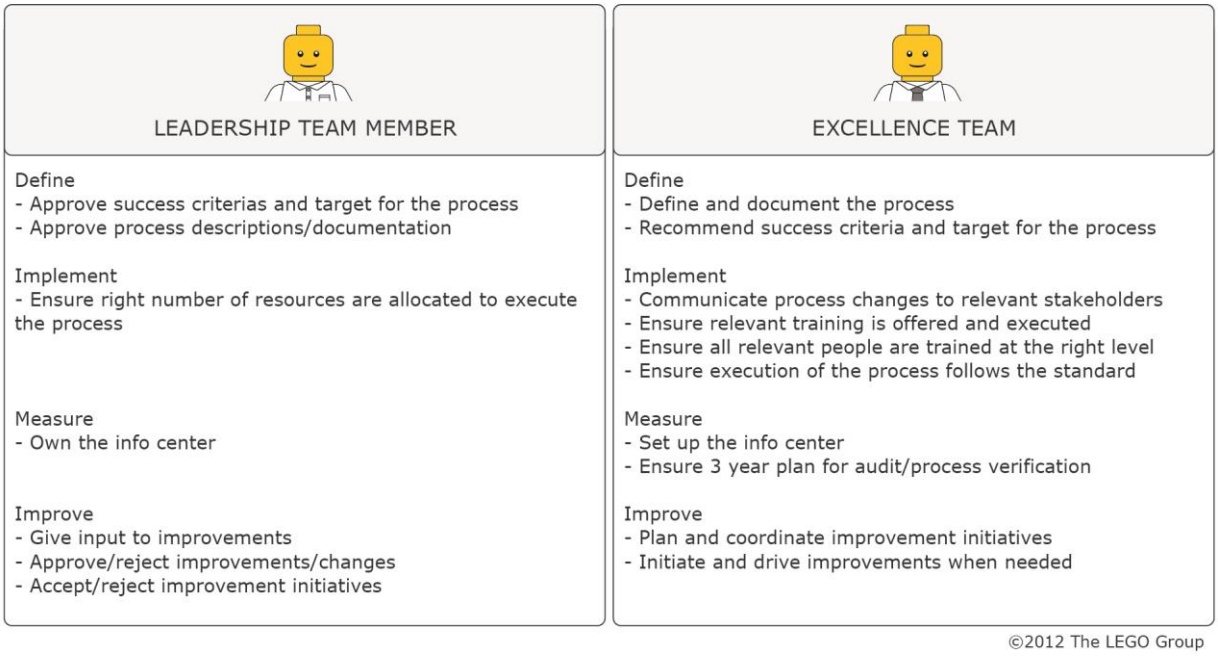
- Ensure efficient and effective business processes across organizational structures linking the value expectation and operational performance.
- Manage and develop own processes.
- Responsible for and mandate to (re-) define, implement (train and communicate processes), as well as measure and improve the owned processes as needed.

Process Owner tasks are defined as follows:



One of the dilemmas about process ownership is that on the one hand, the process owner needs to have a certain management mandate that will allow direction and create the framework for the LEGO Group to ensure efficient processes and on the other hand, the process owner needs to have a thorough knowledge of the owned processes to be able to for example to take an active part in creating process documentation, perform training or define measurements and verification of the processes. The process owner has a need for an operational muscle to perform the more operational tasks and this operational muscle is established through Excellence Teams.

The LEGO Group has in several places in the organization chosen to share execution of process owner tasks in the following way:



Process Owner vs. Line Manager

It is important to distinguish between Process Owner responsibility and Functional Line Manager's responsibility:

- A Process Owner is accountable for the achievement of the process output, thus responsible for defining process steps and the resources needed.
- A Functional Line Manager is responsible for allocating the resource needed for the process. Though a Functional Line Manager can act as a Process Owner for his/her own processes.
- The Process Owner is accountable for ensuring that process output is achieved based on input, constraints and resources given.

The area of control for a Process Owner has to be defined based on Process Owner's accountability more than seen from a Functional Line Manager's responsibility point of view.

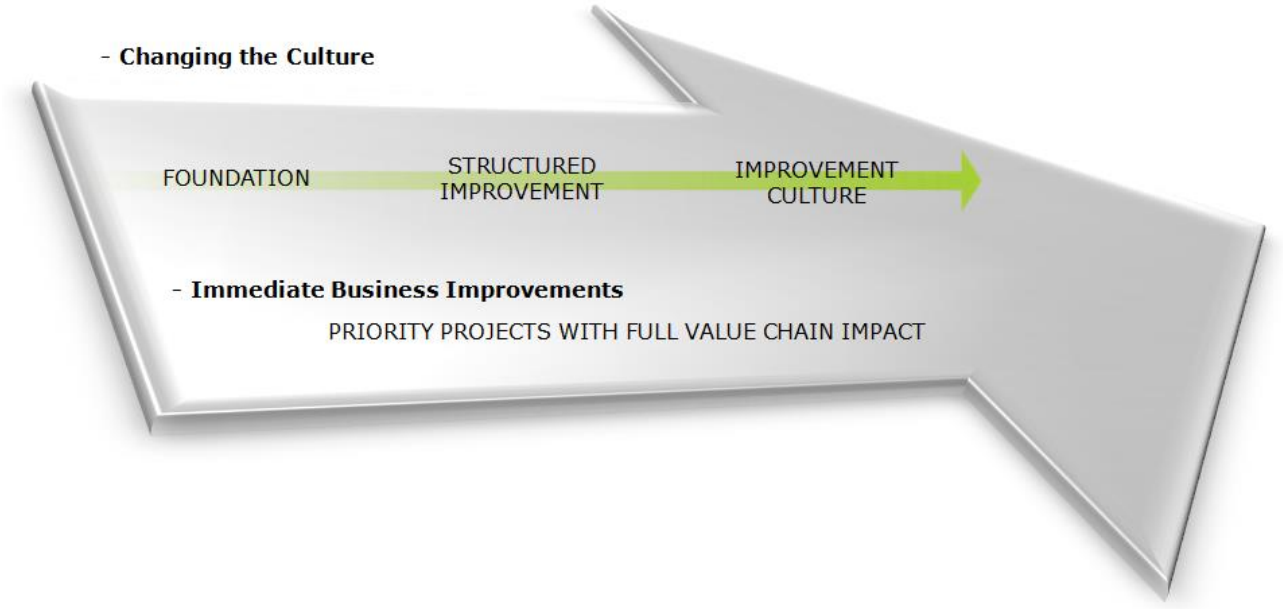
This means that a process can contain resources from a single or multiple organizational units under one or more Functional Line Managers. It also means that a process should be scoped/limited only based on it's nature/characteristics and not due to organizational boundaries.

“The LEGO processes are based on a process-oriented way of thinking.”

Alignment with the Continuous Improvement Program in the LEGO Group

In addition to the Business Process Management function, the LEGO Group has a LEGO Continuous Improvement function which aims to create a culture of improvement of the LEGO Group. Continuous Improvement is in its nature to continuously and constantly improve business processes and is therefore closely linked to the processes as documented by the Polaris project. BPM function and LEGO Continuous Improvement (LCI) function have therefore prepared a common excellence roadmap showing a common journey for both BPM and Continuous Improvement.

The Excellence roadmap can be divided into two tracks, a track that will focus on changing the culture of the organization to an improvement culture and another track that will focus on creating improvements here and now in the way of doing business.



Excellence road map is divided into three phases. © 2012 The LEGO Group

Phase 1:

The first phase is where you create the foundation for working with improvements. In this phase, process documentation is a large and important element as this is where the process structure and processes are defined and documented. In this phase process owners are nominated. It is the responsibility of the Polaris project to ensure the processes are implemented through process training and introduction to the LEGO Process Portal.

Establishment of performance management is also an important element in the first phase. Performance Management is very often established through Performance Management boards. The Key Performance Indicators (KPI's) and Process Performance Indicators (PPI's) will show where to focus on improvement activities. In this phase improvement activities are initiated in small scale.

In an improvement culture, it is important that the employees think of improvements and have a positive attitude towards change. In order to develop this mindset employees are offered training in how to operate in an improvement culture.

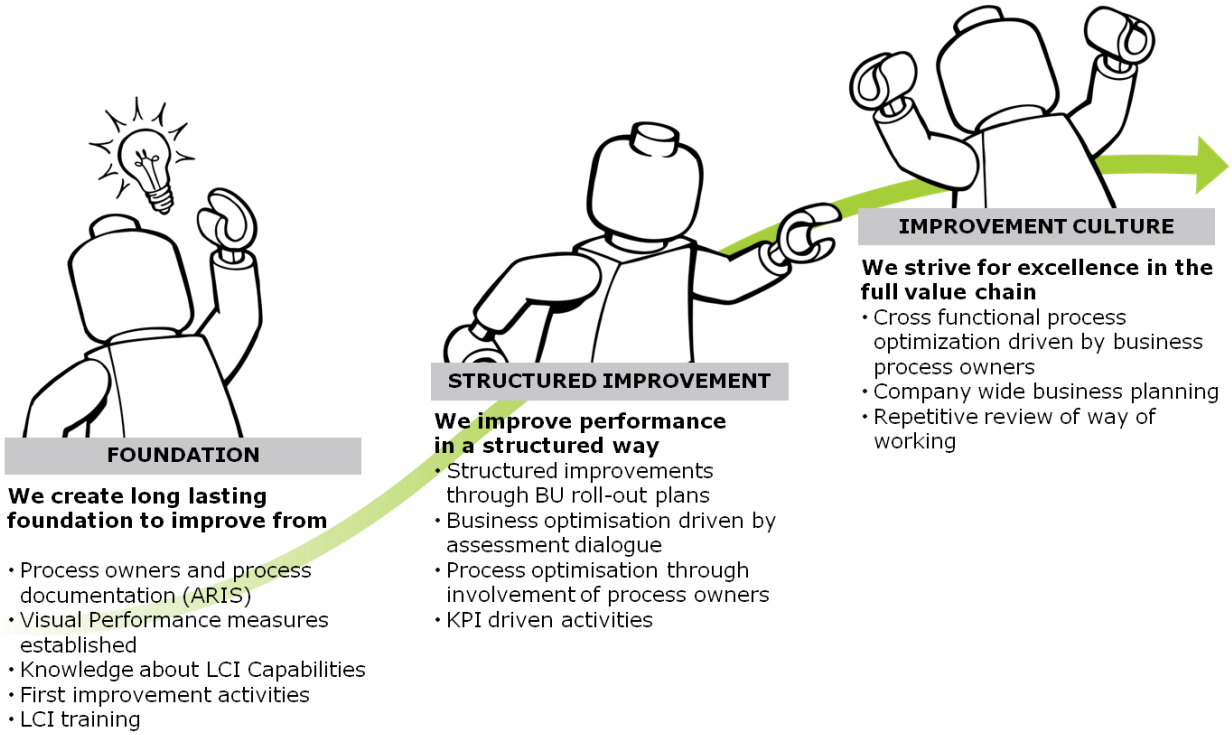
Phase 2:

Once the foundation is in place, phase 2 continues with a more structured approach to improvements. On the basis of each area's strategic business objectives (SBO's) concrete improvement activities are initiated to improve the outcome of the processes that support the strategic objectives. The process owner is a major player in these improvement activities. In this phase each business area is still only looking for improvements within own area and do not yet look for cross functional-/value chain improvements.

In phase 2 an assessment tool is launched in order to continuously follow up on how far the LEGO Group is in relation to creating an improvement culture. This assessment is made at regular intervals, approx. once a year, and must show whether the maturity in the organization is improving. Two of the elements in the assessment are 'Process Management' and 'Standardization' and these elements cover the areas of process documentation, process ownership and process governance.

Phase 3:

In the last phase, the business area is very process mature and has full control over its territory. In order to drive results to an even higher level it requires working with processes in a broader context than just own territory. Improvement activities have the character of being value chain improvements more than area-/function-improvements. This requires that the company has reached a high level of maturity across the different business areas. The LEGO Group must be able to prioritize these value chain initiatives across the company, as it requires the involvement of many inter-organizational resources. In this phase, process owners proactively initiate and drive process improvements with clear links to the corporate strategy.



Cooperation with Corporate Quality

Traditionally, Corporate Quality has been responsible for developing and maintaining the Quality (QMS) & Environmental (EHS) Management System, including the development of new process documentation in collaboration with various departments. Corporate Quality built their own IT tools to manage this process documentation. The scope was limited to the processes that directly affect the quality of the product; the procedures were not integrated in the daily workflow. With the introduction of Polaris, it is clear that Corporate Quality and Polaris have a common goal. With a determined effort from both teams the documentation plans have been combined, and all conventions for process documentation are adapted to meet quality requirements (ISO 9001). This means that all procedures and instructions in the LEGO Group's QMS and EHS systems now are found in the LEGO Group process portal rather than a separate IT system.

The owners of the business processes are now responsible for documentation of their processes in The LEGO Process Portal. A governance structure for this has been established. Corporate Quality reviews and approves new/changed processes with a focus on the process steps that need to meet the quality requirements.

LEGO's BPM Lessons Learned

ORGANIZATIONAL RESISTANCE

Very often the journey of establishing process documentation begins with some resistance - some participants think "process documentation! - now it simply cannot be more boring". Experience however shows that once employees enters the world of process documentation and begin to understand how to do it and start seeing the big picture they begin to realize how valuable process documentation is.

VALUABLE COMMUNICATION TOOL

Process documentation is a valuable communication tool used to clarify the interfaces between processes and departments and to clarify how the process flows and is being executed.

Experience also shows that when employees participate in the process mapping activities they find it very easy and valuable to have a process consultant and a process modeling expert present to facilitate the mapping of the process in a standardized format. The only thing the employee needs to do is to share all the vast knowledge about the execution of process and not think about where and how it should be maintained and presented. Once employees have been part of a process mapping activity they recognize the value it brings, and often ask for more.

DON'T RE-INVENT THE WHEEL

To speed up the documentation process it is highly recommended to use existing standard process frameworks. One advantage is that process consultants who have no prior experience in a certain area can use the as an access point to process knowledge. It simply gives them a deeper knowledge in advance. It also helps to ensure that the level of detail for documentation across the enterprise will be roughly the same as the standard process framework already adapted across the process areas.

CHANGE MANAGEMENT THROUGH STORY TELLING

To get the organization on this journey the central process team and the process modeling experts have spent quite a lot of time introducing process documentation to the departments/leadership

teams across the LEGO Group. A 3D model of the pyramid showing the process structure with different examples has been used together with big posters of the BPM vision and overview of the different steps of establishing process documentation. Taking this 'road-show' approach has given a lot of constructive dialogues across the LEGO Group and a lot of concerns have been addressed very early.

Here are a few quotes from some of the LEGO Group employees:

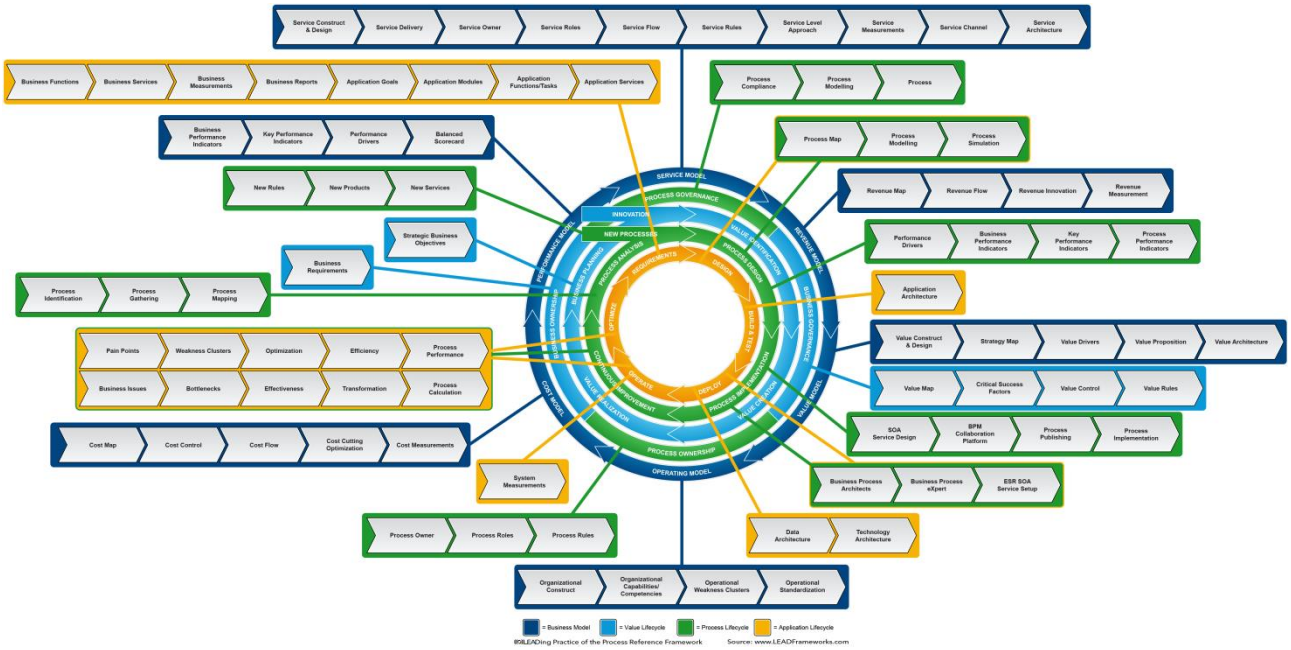
"I'm really glad, that finally we had a tool thanks to which every employee can easily find all our processes in one common place, see how processes flow, see the particular roles and responsibilities in each process and easily access the related documentation, tools and templates. I really like that every process is now nicely visualized and easily understandable. We shall also not forget that thanks to the visual form of the mapped processes we will have a great opportunity to start working on a simplification of our processes and their alignment between the various sites."

"Polaris has taken the 'guess work' out of business processes and has provided a source of very valuable information."

"It's been really rewarding for me to participate in Polaris training. All levels of management must take ownership of our processes so that we are aware of our processes and the opportunity to help each other to become more efficient in the future."

"We all need to know our processes. It is such a dynamic world we live in and it is therefore important that we can gain support from our processes which are the most stable in our organization. Polaris creates transparency and thus an opportunity to become more efficient, eliminate errors and faster onboarding/introduction of new employees."

Summary of the LEGO Leading Practice Modelling Principles



BUSINESS MODEL

Business Governance
Value Map, Critical Success Factors, Value Control and Value Rules

Service Model
- Service Construct & Design
- Service Delivery
- Service Owner
- Service Roles
- Service Flow
- Service Rules
- Service Level Approach
- Service Measurements
- Service Channel
- Service Architecture

Revenue Model
- Revenue Map
- Revenue Flow
- Revenue Innovation
- Revenue Measurements

Value Model
- Value Construct & Design
- Strategy Map
- Value Drivers
- Value Proposition
- Value Architecture

Business Ownership
Business Requirements

Operating Model
- Organizational Construct
- Organizational Capabilities/Competencies
- Operational Weakness Clusters
- Operational Standardization

Cost Model
- Cost Map
- Cost Control
- Cost Flow
- Cost Cutting Optimization
- Cost Measurements

Performance Model
- Business Performance Indicators
- Key Performance Indicators
- Performance Drivers
- Balanced Scorecard

VALUE LIFECYCLE

Value Identification & Innovation
Value Creation
Value Realization
Business Planning
- Strategic Business Objectives

PROCESS LIFECYCLE

Process Governance
Process Compliance, Process Modelling and Process

Process Analysis
- Process Identification
- Process Gathering
- Process Mapping

New Processes
- New Rules
- New Products
- New Services

Process Design
- Process Map
- Process Modelling
- Process Simulation
- Performance Drivers
- Business Performance Indicators
- Key Performance Indicators
- Process Performance Indicators

Process Ownership
Process Owner, Process Roles and Process Rules

Process Implementation
- SOA Service Design
- BPM Collaboration Platform
- Process Publishing
- Process Implementation
- Business Process Architects
- Business Process Experts
- ESR SOA Service Setup

Continuous Improvement
- Pain Points & Weakness Clusters
- Business Issues & Bottlenecks
- Optimization
- Effectiveness
- Efficiency
- Transformation
- Process Performance
- Process Calculation

APPLICATION LIFECYCLE		
Application Requirements • Business Functions • Business Services • Business Measurements • Business Reports • Application Goals • Application Modules • Application Functions/Tasks • Application Services	**Application Design** • Process Map • Process Modelling • Process Simulation	**Application Build & Test** • Application Architecture
Application Deployment • Data Architecture • Technology Architecture	**Application Operations** • System Measurements • Pain Points • Business Issues • Weakness Clusters • Bottlenecks • Optimization • Effectiveness • Efficiency • Transformation • Process Performance • Process Calculation	**Application Optimization** • Pain Points • Business Issues • Weakness Clusters • Bottlenecks • Optimization • Effectiveness • Efficiency • Transformation • Process Performance • Process Calculation

LEADing Practice Benefits

We have identified the following benefits:

From a strategic context:

- Ability to rapidly change business processes in response to business events and opportunities
- More agility to enter new businesses
- Enable business model innovation and transformation with business process optimization and innovation
- Support of ISO certification

From an organizational context:

- Better information sharing and collaboration across the LEGO Group
- Improved coordination
- Improved organization agility and flexibility
- Bridge geographically dispersed employees

From a process context:

- Elimination of errors, waste, non-value adding activities and variation
- Reducing the level of process complexity involved
- Reduced number of process steps
- Increased process efficiency/productivity
- Ability to re-use processes
- Improve process quality/consistency/compliance
- Foundation for continuous process improvement
- Create and sustain coherence across the business processes
- Capture the value of a global process approach

CONCLUSION

Findings and Summary

Our BPM journey of documenting, standardizing and automating our business processes has been a powerful way of supporting the LEGO Group strategy. Realizing that the journey taken has the power of linking strategy with operational execution and in order to do so the following needs to be in place:

- Anchoring and support from top management.
- Process experts and process modeling experts appointed to help the business.
- Communication material which focuses on the value of process documentation seen from the business point of view.
- User-friendly IT tools where the documentation can be maintained and presented in a uniform way and user friendly way.
- One set of global conventions for process documentation.
- And finally, persistence, persistence AND persistence.

Establishing process documentation in an organization requires focus, resources and lots of work. In return the organization can harvest a lot of low-hanging fruits because the employees through the mapping of processes get good ideas and input from others, which they can go back and implement immediately, thus work smarter and more efficiently right away.