

Successful implementation of RPA takes time

Lessons learnt by 18 of the largest Danish enterprises

October 2017



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Introduction

A staggering 45 per cent of the business leaders participating in a pulse survey from PwC believe that robotics will develop to become the most revolutionary technology of all for the Danish business community*. Robotic Process Automation (RPA)** has the potential to transform workplaces as we know them today. By using RPA, enterprises can streamline processes, release resources, achieve higher quality and commit fewer errors. But it is nevertheless important, as an enterprise, to be aware that RPA has its limitations, and that it often takes time to complete a successful implementation.

PwC has carried out a number of qualitative interviews with 18 of the largest enterprises in Denmark. From these, it becomes clear that the implementation period indeed often ends up being longer than expected. RPA technology is easy to use, and the enterprises have achieved the expected outcomes, but it has often taken longer than anticipated to obtain the expected benefits. In order to realise the full potential of the RPA technology, it is necessary to prioritise the effort and be ready to make the investment required, including the process standardisation that is also necessary for RPA.

This report provides insight into selected Danish enterprises' experience with implementation of RPA and explains the reasons why an RPA implementation may take longer than expected.

The contents of the report are based on a number of qualitative interviews with controllers, digitisation managers, RPA project managers, RPA business analysts and Shared Service Centre managers from 18 major Danish enterprises. The interviews were conducted during the spring of 2017, and the results are presented and described in further detail in this report. Moreover, the report contains specific recommendations based on PwC's experience with RPA.

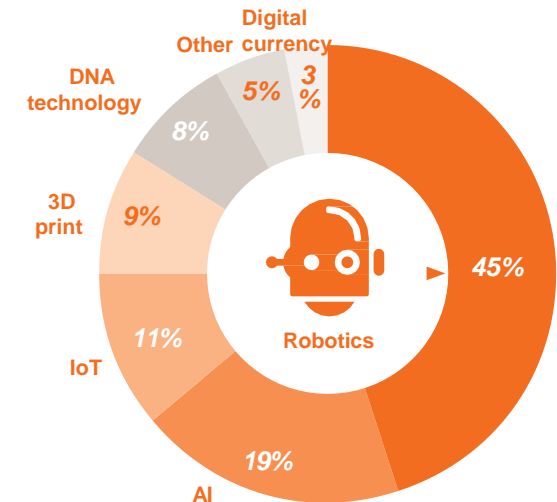
Enjoy your reading!

*) Source: "Danmark i vækst - erhvervslivets input." November 2016
**) See page 30 for a detailed definition of RPA

In PwC's pulse survey*, 45 per cent of the respondents replied that they believe robotics will become the most revolutionary technology for Danish businesses.

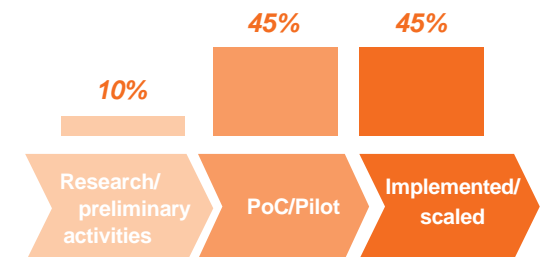
Pulse survey

Which of the following technologies/consequences of the technological development do you think will develop to become the most revolutionary aspect of all for the Danish business community?



Survey participants allocated by current RPA status

PwC has prepared a qualitative study comprising in-depth interviews with managers from 18 major Danish enterprises



Main findings

The requirements for implementation of RPA are underestimated

Based on the survey, the conclusion is that the implementation of RPA is often more challenging and requires more than anticipated.

The majority of the enterprises participating in the survey, which are currently implementing or have implemented RPA, assess that RPA has not met the expectations they had in terms of rapid implementation. One of the respondents pointed out that RPA is not 'plug-and-play'.

It appears clearly from the survey that causes related to six topics are usually to blame for the implementation of RPA taking longer than expected for the individual enterprises. Below is an overview of the topics, which are subsequently explained in detail.

"Adjust your expectations - RPA is no magic wand."



PwC has learned...

The implementation of a Proof of Concept has helped enterprises prove their business case, but also to play down their expectations for the technology, which has provided them with more realistic expectations for the implementation.

**"Are you willing to invest what it takes to succeed?
Make the effort structured and prioritised."**

Start-up project - see page 7

According to the respondents, start-up projects, which most often constitute a Proof of Concept (PoC) or a pilot, often take longer than the enterprises expect before they launch the projects. This is because in many cases, either too comprehensive or complicated processes are selected as part of the first round of automation, or that unexpectedly, more than one PoC is required to test the software of different RPA suppliers.

Organisation and governance - see page 9

Enterprises invest more time than expected - both in the start-up phase and continuously during the implementation phase - on creating just the right foundation and the right framework for the RPA implementation. In particular, they choose to spend more time on the integration of the RPA unit, structuring and establishment of a Centre of Excellence as well as the organisation of employees - and on ensuring that all these aspects are adapted to an RPA strategy.

Dedicated resources - see page 14

The majority of the respondents find it necessary to have their own internal RPA resources due to the nature of the RPA technology. But because there is a severe shortage of RPA specialists in the market, Danish enterprises are forced to develop the right RPA skills internally through training. As a result, enterprises spend somewhat more time on employee development than what they thought was needed prior to initiating their RPA projects.

Change management and stakeholder management - see page 17

In order to ensure wide support from the organisation, the enterprises are very focussed on change management and communication with stakeholders. Two aspects may in this connection increase the implementation time frame: Major investment in managing and involving employees as well as changes to or confusion about who owns the RPA project.

Cooperation between the business and the IT function - see page 19

One of the main reasons for delays in RPA implementations is an unclear division of roles between the business and the IT function, as well as problems in connection with the set-up of a solid IT infrastructure. In addition, the process may be complicated if either the IT function or the business is not involved until later in the project, as they will often have different perspectives in terms of, for example, selection of software.

Enterprises' approach - see page 23

A few enterprises have chosen to handle the RPA implementation themselves, but most have made use of external experts. Some of these enterprises that have handled the implementation themselves state that it has taken longer than if they had made use of external experts. They amplify by explaining that they had no knowledge of best practice within the area.

"RPA is a technology that is easy to use, but things take time, and so does an RPA implementation. A sound foundation must be created for the purpose of further scaling, and this requires a solid basis with a defined strategy, communication plans and change management, trained RPA experts and a stable IT infrastructure – just to mention some examples."

- Zeeshan Rajan, Senior Manager, PwC



Implementation of Robotic Process Automation - lessons learnt by 18 Danish enterprises

Start-up project

The start-up project containing the PoC and the pilot ends up taking months instead of weeks

The trend within RPA implementation shows that enterprises start out gently with a small project in the form of either a Proof of Concept (PoC) or a pilot, which is continually expanded in line with the achievement of good results and acceptance of the technology in the enterprise. Some choose to start up gently with a PoC and then go on to developing the solution through a pilot project, whereas others throw themselves directly into a pilot project.

The enterprises underestimate the time spent on getting their first robot in production by this much



Several of the enterprises conducted a PoC/pilot that took four to six months instead of four to six weeks, which was the time frame anticipated by many of the enterprises before they started.

The enterprises explained that it took them a long time to get the projects through to the final production due to preparatory activities, such as the setting up of the infrastructure, establishment of governance, development of employees, etc. (page 9), conflict between the IT function and the business (page 19), or for the following two reasons:

1. **Choosing a complex process for the start-up project creates delays.**
2. **Some choose to run more Proof of Concept projects to test several RPA tools.**

Choosing a complex process for the start-up project creates delays
It has proved difficult for the respondents to find the right process for the first PoC or pilot. In most cases, they have chosen part of a process with characteristics particularly suited to RPA, such as many manual and repetitive steps, work across applications and many errors.

But in some cases, enterprises have been forced to implement a PoC or a pilot in connection with a relatively large and complex process, which is not necessarily suitable for a brief start-up project. The most common reason for this is that the enterprises have been forced to choose a process based on where they could find a sponsor for the project. As a result, the start-up projects have in several cases been more difficult and time-consuming than expected.

Some enterprises choose to run multiple PoC projects to test different RPA tools

Another reason why the start-up projects may drag on is that some enterprises choose to carry out more than one PoC to be able to compare several RPA suppliers and their software without having to invest in licences. This allows the enterprises to test the suppliers' software and their functionality at a low risk.



PwC recommends...

- Select a small part of a simple process to demonstrate the potential of RPA and the usability of the technology through a PoC or pilot. The start-up project should not take many months, but simply be used to make the enterprise smarter about the technology and the software.
- As regards tools, PwC recommends that the selection be based on the enterprise's vision, intended areas of efficiency improvement, skills of the developers, architecture requirements and the number of "workarounds" in the first PoC/pilot.



Did you know...?

- The norm in the market is that RPA suppliers make their software available free of charge in the PoC period. It is not until the enterprise chooses to put the RPA solution into operation that licences must be purchased.
- A PoC is typically used as a low-risk method to test the RPA technology. By skipping the PoC and going directly to the pilot, you save time and money, which would make sense, because many others have already proved that the technology works. However, a pilot does not provide the same opportunity to compare the software, as the enterprise in this case will be forced to purchase a licence.



Definition

- **RPA Proof of Concept** A minor project for the purpose of proving the RPA technology's practical applicability in the business. This is done by using part of the RPA software to automate part of a process. The solution is not developed for operational purposes.
- **RPA pilot:** A pilot is very similar to a PoC, but the scope is larger. In addition, a pilot solution is operational and can be put into operation in order to test the actual impact on the business, which is not the case for a PoC.

Organisation and governance

Major focus on establishing the right framework makes implementation time-consuming

The enterprises are highly focussed on creating the right framework for implementation of RPA, including correct position and organisation of the RPA unit in the business as well as structure and operation of a Centre of Excellence (CoE), and making sure that everything is in line with the strategy planned for the initiative.

The enterprises do not always feel that they have received sufficient information about how long time it actually takes to create just the right foundation. The respondents who have already implemented RPA experienced that the investment required for the implementation was underestimated from the beginning.

The enterprises nevertheless agree that it is crucial in the start-up phase to establish the right structure and build a foundation capable of a prompt scaling later in the process.

To create this foundation, enterprises particularly focus on:

- 1. Integration and position of the RPA unit**
- 2. Structuring and establishment of a Centre of Excellence**
- 3. Organisation of RPA staff**
- 4. Definition of strategy.**

Integration and position of the RPA unit

There are many ways in which an enterprise may choose to be organised in order to get optimum effect of RPA. Where exactly to embed RPA and how to otherwise adapt the organisation to incorporate RPA depend on the enterprise's strategy, structure and culture.

In global enterprises that have shared service centres, RPA is often integrated in the SSC, either through an internal RPA team or through an outsourcing partner. The enterprises consider the Shared Service Centres a good choice, as the automation potential gathered in one place is typically quite substantial, and they constitute a good starting point for the establishment of an RPA service unit that is able to assist the entire business.

The remaining enterprises that have no shared service centres, or want to keep their RPA initiatives local, either integrate RPA in a business unit or in the IT function. The location typically depends on the possibility of obtaining a sponsor in one function instead of the other, or is based on a strategic choice as to ownership.

"Build to scale"

The typical reason for integrating RPA in a business unit is when the enterprise considers RPA a technology that allows them to become more independent of the IT function and thus more agile. Enterprises choosing to integrate RPA in the IT function do so because they see RPA as yet another automation tool among many, and in their assessment it requires a predominance of IT resources to handle the technology.



PwC recommends...

- RPA should be incorporated in accordance with the size and culture of the enterprise, but if possible, we recommend that it be integrated in the business, and in close cooperation with the IT function. This increases the chances of RPA being employed as intended and with an agile approach at the same time as it enables the IT function to provide support on substantial IT areas.



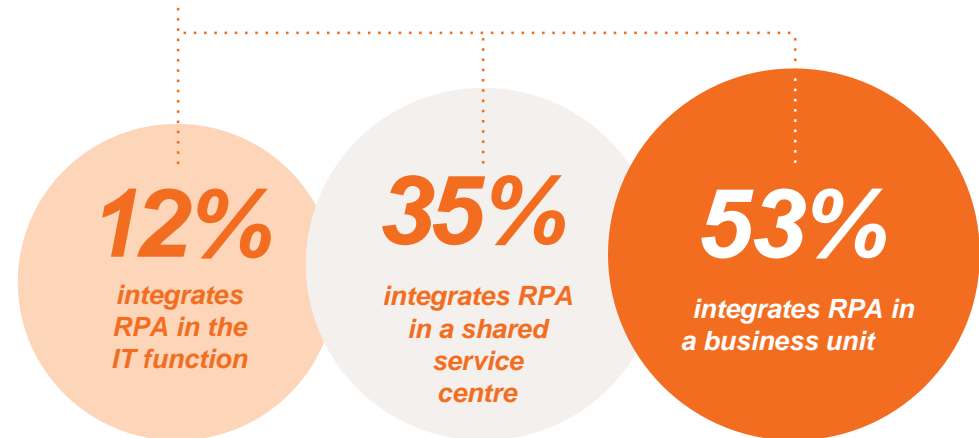
Did you know...?

- The RPA technology is usually marketed as a tool for the business. In reality, it is impossible to implement RPA software without involving the IT function, as a successful implementation requires the right IT infrastructure, IT security, IT skills, etc.

Where is the RPA unit rooted?



RPA unit



Structuring and establishment of a Centre of Excellence

The norm is to create an RPA Centre of Excellence (CoE) in connection with scaling of the RPA initiative. In general terms, a CoE is the unit which, for example, provides best practice, management, support and training within a particular area.

The enterprises that have implemented RPA have already established a CoE, and the enterprises that are still in the PoC-/pilot phase are in the process of establishing a CoE or expect to do so concurrently with the implementation. The few that have been somewhat slow in establishing a CoE have all regretted that they did not do so earlier in the process.

Enterprises use their CoE for:

1. **Managing the operation and the RPA initiative:**

The CoE is in charge of the RPA initiative, and the centre also decides how to operate the RPA initiative. Often, RPA employees located in the CoE will drive the roll-out and implementation of the RPA in their capacity as project managers, business analysts and RPA developers.

2. **Ensuring quality:**

Through well-defined standards, procedures and guidelines, owned and developed by the CoE, the enterprises obtain high quality RPA solutions.

3. **Prioritising:**

The CoE helps enterprises prioritise processes with automation potential. Several of the enterprises make use of a gatekeeper function in the CoE who approves all automation procedures, before they are put into production. This also allows the CoE to assess whether RPA is the right tool for this particular process optimisation, or whether other IT solutions would be more useful.

4. **Developing talent:**

The CoE is responsible for RPA training and instruction of employees. See more on page 16.

5. **Communicating with stakeholders:**

A coordinated communication effort is often driven by the CoE.

6. **Ensuring compliance:**

The CoE ensures that all robots and processes comply with the guidelines issued by compliance and security.



PwC recommends...

- Start defining standards such as development standards and process documentation standards early in the process.
- One of the respondents had developed standards relatively late in the process, which meant that, a couple of months into the implementation, they were forced to reconfigure all their RPA solutions as they realised that their solutions were too unstable and built on an unsustainable basis, which for example made it difficult to reuse parts of solutions and maintain them.

"You should not underestimate the importance of standards for RPA development."



Organisation of RPA staff

Enterprises organise themselves in three different ways, each of which has its advantages and disadvantages. The choice as to how they organise themselves is strongly linked to the strategy behind the initiative.

Central operation of RPA:

Everything is managed from the CoE. All RPA employees work at the same location, and all RPA-related assignments are carried out and managed from the CoE. The enterprises that have chosen this approach experience that central operation ensures high quality, synergies and tight control. On the other hand, the approach is less agile, which may lead to bottlenecks and business units feeling excluded.

The centralised model is the most commonly used model among the participants of the survey.

Decentralised operation of RPA:

When having decentralised operations, the majority of the RPA initiative is driven in the various business units. The CoE's role is solely to make the correct settings available (RPA software, infrastructure, standards, etc.), after which the business units will have their own RPA teams, including business analysts and developers. In this case, the perception of the enterprises is that the approach is agile and that the business has complete control and may implement processes at their own pace. On the other hand, the quality of the solutions is lower and, on occasion, duplication of work is performed across the business units due to the less coordinated work effort.

The decentralised model is the least used model among the enterprises participating in the survey.

Hybrid operation of RPA:

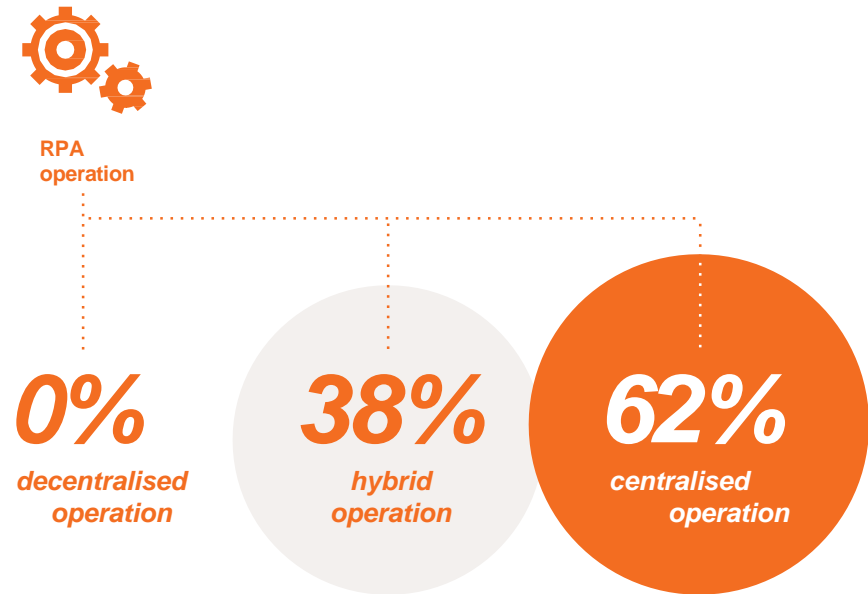
A hybrid model mixes the elements of the centralised and decentralised models. Enterprises using this approach establish a strong central CoE, but with local RPA units capable of identifying processes, and documenting and developing simple solutions. The enterprises applying this model find that it contributes to high quality due to quality checks between the CoE and the local teams as well as a high degree of agility as a result of the local presence.



PwC recommends...

- Enterprises should take company size, vision and ambition into consideration when organising their RPA initiative. Overall, small enterprises should select a central operating model, whereas medium-sized and large enterprises should choose a hybrid model, thereby achieving greater benefits in a short time.

How do enterprises organise RPA staff?



Definition of strategy

An RPA strategy can be defined as a set of instructions, which guides the RPA initiative and clarifies how RPA must be applied by the enterprise. The survey shows that in terms of enterprises with an RPA strategy, the set-up of a CoE depends on the defined strategy. The strategy will have an impact on where it makes most sense to incorporate the RPA unit, how the CoE must be structured and how the enterprise should organise itself.

Very few businesses have a written, well-defined RPA strategy:

A large number of respondents say that definition and clarification of the RPA strategy are the most important factors for a successful implementation of RPA. In spite of this, very few enterprises actually have a defined and written RPA strategy.

The enterprises which have yet to introduce RPA have not made any special strategic considerations. The enterprises which are currently going through the PoC-/pilot phase have not considered or formulated a strategy for how they will make use of RPA either.

The enterprises that are in the middle of an RPA scaling process, however, have to a higher degree considered the strategic aspects of the implementation, in step with having gained more and more experience with the technology. Most enterprises nevertheless follow general principles and visions that guide their development of the initiative. Very few of them have written strategy documentation.

Unclear strategies may complicate the implementation:

A couple of the survey's participants had to go through time-consuming restructuring of their RPA set-up one or more times, as they became wiser and learnt more about their own strategy.

One of the enterprises participating in the survey started out with having a decentralised model covering the Nordic countries and a CoE for each country, as the enterprise assessed that the IT landscapes in the various countries differed significantly. But they discovered along the way that they could obtain certain advantages by switching to the hybrid model. As a result of the fact that they had not clearly defined a strategy from the start, it was difficult for them to organise themselves in the best possible way. They are still in the process of switching from a decentralised model to a hybrid model, which has set them significantly back in time.

"Be rigorous about the RPA strategy: Be precise in terms of what you want to achieve and define a strategy as well as the end game."



PwC recommends...

that, as a minimum, the following questions concerning the RPA strategy be considered:

- What is the ambition level of the initiative in relation to the pace of scaling?
- What is the purpose of implementing RPA, and how will the technology be used?
- When should RPA be applied, and when should other solutions be employed?
- Should RPA be applied as a temporary or permanent solution?
- Should an end-to-end approach or a more function-based approach be applied?

Dedicated resources

It takes time to acquire the right profiles and develop their RPA competencies.

The respondents largely agree that it is crucial to invest in acquiring and/or developing the right competencies, and talents are an essential part of a successful implementation of RPA. Without talented employees who understand the technology, and how it is best used, the enterprise will not obtain maximum value out of RPA. But finding the right resources takes time, particularly at the moment when there is a severe lack of RPA specialists in the market.

The simplicity of the technology makes RPA training sessions relatively short compared to training in other technologies, but the training of highly skilled RPA specialists does not happen overnight.

The following section focuses on the enterprises' approach to allocation of resources to the RPA implementation.

1. **Enterprises prefer internal RPA competencies.**
2. **Building competencies is necessary due to the lack of specialists.**
3. **Central roles in the RPA unit.**

"Acquire the right competencies, and take care of them."

"Approx. 70 per cent of the businesses participating in the survey and which are in the process of scaling, currently involve external consultants for sparring and to carry out training."

The enterprises prefer internal RPA competencies

Around 70 per cent of the enterprises that are in the process of a PoC or pilot plan to implement and operate RPA using internal competences. The remaining 30 per cent currently make use of external consultants or an outsourcing partner to implement and operate RPA and have not yet decided whether, in the long term, they will develop the skills internally.

However, if we look at the enterprises in the survey that are in the process of scaling the RPA initiative, they all primarily make use of internal competencies specialised in RPA and trained by either external consultants or via the enterprises' own internal training courses.

The respondents which are currently implementing a PoC or pilot typically have between one and five full-time employees dedicated to the RPA project. There is one exception only, where the enterprise has 20 employees dedicated to RPA in the PoC phase, because it has chosen to roll out RPA in three departments at the same time. Today, the enterprise to have undergone the biggest scaling so far has around 120 dedicated RPA employees distributed in the Nordic region.

**PwC recommends...**

Enterprises should to the widest extent possible make use of own resources for the RPA development due to the following:

- The agility of the technology is maintained as resources that are deep into the business processes are used. Solutions can often be developed faster and at a lower cost.
- The business case is better, particularly for minor automation projects and temporary solutions.
- It is easier to maintain RPA solutions on an ongoing basis, which is necessary because the solutions often require adjustments when, for example, the process or the IT applications change.

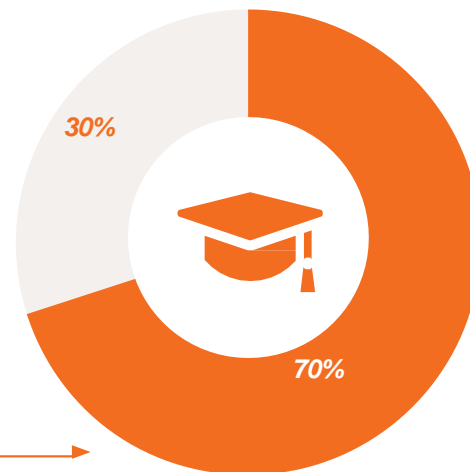
Internal or external RPA resources?

Are you planning to implement and operate RPA by means of internal competencies or external consultants/outsourcing partners?

use external consultants or outsourcing partners



use internal competencies



Building competencies is necessary due to the lack of specialists in the market

Employees with RPA experience are in high demand among businesses as there are only few in the market. It is therefore rare for enterprises to be able to find the right profiles and competencies externally. Consequently, it has proved necessary for the enterprises to select internal or external persons without any RPA experience, but with the right profiles, to be trained in RPA. Moreover, the enterprises have noted that they need to take extra care of the trained employees as soon as they become experienced RPA specialists, as they will receive many job offers from other firms.

Our interviews show that the respondents typically bring in external competencies to support the training. RPA suppliers often make online training programmes available whereas, according to the respondents, consultants help with practical one-to-one coaching in the start-up projects. In addition, the consultants assist the enterprises in developing training sessions to enable the enterprises to handle the internal training in future without having to involve external consultants.

**PwC recommends...**

- Due to the high demand for RPA specialists, it can be difficult to get the resources you need in the market. We therefore recommend that you - together with experts in the field - establish efficient and focused training for each of the roles required in the RPA unit. This will also enable the enterprise to quickly train new resources in the event that previously trained resources leave the firm.

**PwC has learnt...**

- One of the enterprises designated competent employees from the business units and with the right basic skills to expand their RPA unit. This initiative ensured that employees of the RPA unit already knew the business and the business units' processes and IT applications. In addition, they served as good ambassadors and contact persons for the business units to which they had close relations.

Central roles in the RPA unit

Enterprises typically divide their RPA specialists into business analysts, developers, controllers, and project managers. However, the roles are far from always this well-defined. Particularly in the start-up phase, where the RPA unit is still relatively small, the enterprises choose to let business analysts, developers or process owners be controllers for the solution. Often during the start-up phase, not everyone is on the RPA project full time.

RPA business analyst:

A business analyst identifies the processes which are assessed to hold a potential for application of RPA. They document the processes as they are now and then re-design and transform the processes, in order to reap the largest possible benefits from the use of RPA. The business analyst works closely with those who perform the processes on a day-to-day basis and the RPA developers.

RPA developer:

RPA developers configure the RPA solution in the RPA software. The development is based on the process documentation, which has been prepared by the business analyst. Concurrently with the configuration, the developer must document the RPA solution to ensure that other developers will be able to understand and maintain the solution.

RPA controller:

An RPA controller's task is to monitor all the RPA solutions that are in operation through a virtual control room. The controller must ensure that the RPA solutions run without problems, that they have been scheduled for the right times, and that there is sufficient capacity in the form of activated licences to handle the transaction volumes. In the event that an RPA solution comes to a standstill, the controller is obliged to inform relevant stakeholders.

RPA project manager:

An RPA project manager's role is to coordinate the other RPA roles' assignments to ensure an effective and successful implementation of an RPA solution. The project manager has the overall responsibility for the final solution and may work on one or more RPA projects at a time.

**PwC recommends...**

- It could make sense to consider whether the developers' assignments, such as development, monitoring, maintenance, software updates, etc., should rotate to make the business less dependent on individual employees.
- RPA developers do not need to have a programming background to work with the RPA software. We nevertheless recommend that you look for profiles with a flair for IT and potentially experience with macros as this will be a better basis for the developer to understand how a solution is best built on the basis of common programming standards and logic.

**Did you know...?**

- According to general principles within software design, it is not accepted when a developer tests a solution that s/he has developed. Best practice dictates that you should have another developer than the one who has developed the solution to perform the test.
- The process documentation prepared by the business analyst serves as a good back-up and step-by-step guide in the event that the RPA solution breaks down, and it becomes necessary to handle the process manually for a period of time.

"The RPA tool is not providing the good solutions - the employees using the RPA tool are providing the good solutions."

Change management and stakeholder management

Enterprises are good at making the investments in change management required by an RPA implementation

It clearly appears from the interviews that communication and obtaining approval and support from stakeholders are vital to a successful RPA implementation. Relevant stakeholders include both employees and management, all of whom play an important role in the implementation.

All the enterprises participating in the survey are aware of the importance of change management when it comes to RPA, as considerable scepticism, uncertainty and ignorance of the technology may exist among the employees. It has become apparent that, as a precautionary measure, the enterprises have invested significant amounts of time in change management to ensure wide support in the organisation from the beginning.

The survey shows that the following three topics may explain why change management is yet another aspect that increases the amount of time to be invested in an RPA implementation:

- 1. A targeted effort aimed at handling the employees is essential for success.**
- 2. Changes or ambiguity as to ownership will delay and complicate the implementation.**
- 3. Lacking or late buy-in from executive management may slow down the implementation process**

Targeted effort aimed at handling the employees is essential for success

There is often a certain degree of scepticism among the employees when the word "robot" is mentioned, and in the experience of the enterprises, many employees are afraid that an RPA implementation will lead to redundancies. Several of the respondents have embarked on the RPA project, concerned that they would experience a negative reaction from the employees. Consequently, the enterprises have been good at investing in change management initiatives and early on focus on stakeholder management and communication to all parts of the business. The enterprises in the survey who have already implemented RPA have therefore not experienced any major problems with dissatisfied employees. On the contrary, several of the respondents report that RPA has increased employee satisfaction, because it allows the employees to do more of the interesting work, while the robot takes care of the tedious tasks.

Examples of how the enterprises have handled RPA and change management:

One of the enterprises has made line managers in the business into RPA ambassadors by providing them with a thorough introduction to RPA and the technology's potential and impact. In this way, they were able to locally handle employees with questions and any concerns in relation to the implementation.

Another enterprise hosts a quarterly "open house" in the RPA department, inviting the rest of the firm to hear more about RPA, watch videos of automated processes and ask all the questions they like about the technology, and what sort of influence they can expect it to have on their everyday lives.

Changes or confusion about ownership may delay implementation

In many of the enterprises, the RPA initiative started at bottom of the organisation

- i.e. in a particular business unit that had become aware of RPA's potential. By finding a sponsor and implementing a local PoC/pilot, they were able to get management's attention, and subsequently, the RPA initiative was put on the executive management's agenda.

The first movers within RPA had a more difficult time getting executive management's support than those who undertake RPA today. This is because executive management has acquired more knowledge and has been more focused on RPA, and it is therefore

now more common that RPA is implemented on executive management's initiative.

Lacking or late buy-in from executive management may slow down the implementation process

One of the persons interviewed explained that they were challenged by executive management not becoming involved until very late in the process. The enterprise had already successfully implemented RPA and automated several processes, but once the executive management became involved, changes were made to both strategy and priorities, which somewhat set back the project.

Another enterprise's RPA initiative came to a complete standstill after completion of a PoC as they were not able to find a sponsor or obtain the support of executive management, and thereby secure a sense of ownership. One year later, they managed to relaunch the project because the executive management reconsidered its investment in RPA.

**PwC recommends...**

- Change management is an important aspect when a firm intends to implement RPA. RPA will free up capacity, and it is important to have a clear idea of what to use this capacity for and how it is communicated to ensure that employees do not fear RPA.
- All enterprises participating in the survey have prioritised this aspect and therefore, resistance has also been limited.
- By focusing on change management and good communication early on, employees will see RPA as a help in their day-to-day work and not as an enemy.

**Did you know...?**

- Most employees fear that their jobs will disappear in connection with automation, but the reality is that, so far, none of the enterprises participating in the survey have chosen to reduce their workforce as a result of an RPA implementation.

"Show your cards: Secure the support of the organisation, keep everybody updated and establish ownership early on in the process."

Cooperation between the business and the IT function

Conflicting interests between the business and the IT function may delay the RPA project

One of the main reasons why the respondents see a mismatch between expected and actual implementation time, is delays related to the cooperation between the business and the IT department.

In particular, the following three reasons pose a challenge for the enterprises:

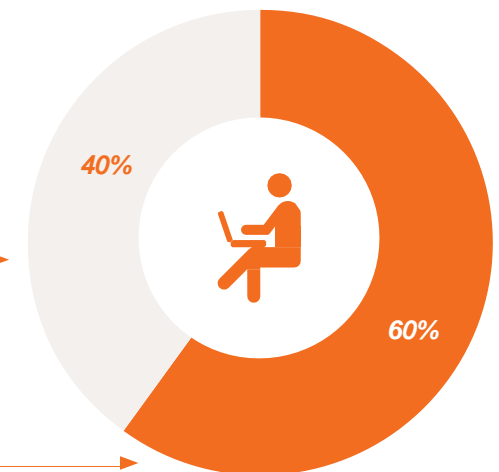
1. **Unclear division of roles between the business and the IT function**
2. **Setting up a solid IT infrastructure, including access rights and security**
3. **Different perspectives as to the choice of software.**

Conflicts with IT?

Has your enterprise experienced conflicts between the business and the IT function in connection with RPA projects?

Enterprises which have had conflicts with the IT function

Enterprises which have not had conflicts with the IT function



Unclear division of roles between the business and the IT function

RPA is typically marketed and viewed as a technology to be used in the business units. But even though RPA is a relatively easy IT tool to use, the respondents express a significant need for involvement and close cooperation with the IT function. In this connection, several of the enterprises interviewed experienced challenges in terms of creating a good balance between the business and IT, including an optimal division of roles.

The challenge arises from the business wanting an easy and agile IT solution, whereas IT has a tendency to put RPA into the classic framework of an IT implementation project. One of the respondents states that it is difficult to explain to the IT function that they should "just" make IT infrastructure available and let the business do the rest. Often, the IT function is rather sceptical of RPA, which may be due to the fact that they see the technology as a stopgap measure, which is not nearly as stable as a conventional, fully integrated IT solution.

In the experience of the enterprises, the IT function is best handled by being involved as early as possible in the project, as well as investing time in informing the IT function of what RPA can do, how it differs from other IT solutions, and how to best use it.



PwC recommends...

- If RPA is incorporated in the business, you should already during the start-up phase involve the IT function. Define the roles and responsibilities of the business and the IT function, respectively, as well as communication channels and procedures.
- The IT function should be considered an important partner and not just a sub-supplier.



Did you know...?

- The differences between conventional, fully integrated IT solutions and RPA are diverse. Among the most important differences is the fact that fully integrated IT solutions are operated through the underlying code of the applications and must be programmed, whereas RPA solutions can be configured via a simple drag-and-drop tool that works on top of the IT applications in the same way as an employee would do it. In addition, the development of RPA solutions takes significantly shorter time, but the solutions are also less robust than fully integrated IT solutions.

"Engage IT from day one."

Setting up solid IT infrastructure, including access rights and security

The most frequent cause of major project delays among the respondents was challenges in connection with the set-up of a professional IT infrastructure, which can facilitate an RPA implementation and operation in a robust and secure manner. The enterprises emphasised that requirements specifications, substantial systems requirements, loading speed of the applications as well as strict compliance requirements must be taken into account.

In addition, many of the enterprises were particularly challenged when attempting to create the necessary usernames and user access to be applied by the software robots. They experienced two issues in this connection:

1. **Challenges in terms of assigning the necessary user access to the robots**
2. **Challenges in terms of ensuring solid governance of user access to mitigate the risk of misuse.**

One of the enterprises spent about 40 per cent of the first 10 months of the project on creating the right user access. Another enterprise had to put the project on standby for three to four months, until the IT function found an appropriate solution.

Assigning necessary user access to robots

According to the enterprises' internal security, robots should only get exactly the access required to execute a specific process. This has proven to be very challenging, as the enterprises found it difficult to identify which type of access only grants access to, for example, a single system, because employees are granted access to several systems.

Ensuring solid governance of user access

It has been a challenge for the enterprises to ensure solid governance in relation to user access for robots. In connection with the development of robots, usernames and passwords are often shared by the different employees involved, which may make it difficult to prevent misuse. Information is not directly linked to a person, which makes it hard to find out who may have misused the access.

"Invest time in setting up a stable and professional IT infrastructure, and make sure that the IT landscape is in good shape before initiating an RPA implementation."

**PwC recommends...**

- It is important that enterprises invest the necessary time early in the process to get the right infrastructure as well as solid governance in respect of user rights, as neglecting to do so will result in the need for a major clean-up in the long term.
- In relation to the governance of usernames, enterprises may consider to make use of third-party systems, such as CyberArk.

Different perspectives on the choice of software

The rapidly developing RPA market and steadily increasing number of RPA suppliers have made it difficult for many of the enterprises participating in the survey to select software. At the same time, the process becomes no less complicated by the fact that the business and the IT function in many cases have different opinions as to the software requirements.

The enterprises choose software based on a structured comparison of a selection of RPA suppliers or by completing a Proof of Concept process involving one or more RPA suppliers. Many of the enterprises have also chosen to involve consultants to help navigate the market.

For the majority of the respondents, the RPA software is selected in cooperation between the business and the IT department. The enterprises have found this to provide good results, as the expertise of both the business and the IT function is utilised, which made it possible to find a tool that meets all the enterprise's requirements.

The few enterprises who chose not to involve either the business or the IT function when selecting software often encountered challenges later in the process when the other party became involved in the project and discovered that significant functions were missing or that the software, for example, did not meet the enterprise's IT requirements. Such challenges require a lot of time, and in some instances they may imply having to select new software.



Did you know...?

The enterprises' points of evaluation in terms of RPA software include:

- Functions and user interface
- Maturity and level of ambition
- Pricing and licencing structure
- Training, support and business partners
- Recommendations and references
- Ability to handle assisted and non-assisted RPAs
- Degree of necessity for involvement of IT competencies, including the possibility/need for programming of software
- Supplier's ability to prove the business case
- Opportunity to test the software for a period
- Scalability of set-up
- Administration of roles and security.

The enterprises' approach

Rejection of external competencies may delay implementation

There is not just one right way to commence an RPA implementation project, and the enterprises also use different approaches. We asked the enterprises how they approached the issue, and the survey shows that only a few have decided to implement RPA without bringing in external assistance, while most have chosen to make use of external competencies.

The enterprises have chosen two different approaches:

1. **Completing the RPA implementation without external assistance**
2. **Completing the RPA implementation with the use of external competencies.**

"We wasted three to four months, because we didn't know best practice for the development of robots."

Completing the RPA implementation without external assistance

Three of the 18 enterprises participating in the survey have chosen to implement RPA without external assistance. One of the respondents states that, as a consequence, it has taken a longer time than if they had brought in external competencies because they had no knowledge of best practice in the area. One of the other enterprises states that half way through the process, they discovered that the intended set-up did not work after all, which implied that they had to change direction.

Completing the RPA implementation with the use of external competencies

The majority of the enterprises interviewed have made use of external competencies for the RPA implementation, and they say that by doing this they have, for example, obtained the following:

- Facilitation of strategy discussions and definition of final strategy
- Navigation of the vendor market and selection of software
- Training of RPA employees through training programmes and one-to-one coaching
- Do's and don'ts
- Establishment of Centres of Excellence and organisational structure
- Delivery of standards, templates and best practice to accelerate the enterprises' implementation.
- Facilitation of an objective approach to the implementation, including process standardisation and choice of IT
- Provision of "best practice" and experience from similar implementations to accelerate the process.



PwC recommends...

- Make use of external competencies - particularly in the start-up phase of an RPA implementation - for the purpose of becoming able to handle RPA internally in future.
- Establish a partnership with other firms who are also implementing RPA for the purpose of sharing experience.
- Ensure that the RPA supplier and your advisors are independent of each other to make certain that you get the right RPA tools.

"Bring in an external partner/consultant to speed up the implementation."

Expectations and results

Despite the longer implementation time frame than originally assumed, the enterprises experienced that the RPA technology has met their expectations

Across the board, the enterprises find that the RPA technology meets their expectations. However, the implementation time frame and the level of investment (resources and money) required to achieve these results come as a surprise to the enterprises.

The enterprises anticipate to reap many benefits from an RPA implementation:

1. Efficiency improvements:

The enterprises expect that the RPA will reduce the lead time through automation of manual, repetitive and rule-based tasks.

2. Release of resources:

As a result of the efficiency improvement, human resources are expected to be released. The majority of the respondents are planning to use the released resources for more value adding activities and, consequently, keep the existing workforce. A minority of the respondents - typically those who are implementing RPA in their Shared Service Centres - expect to reduce their workforce.

3. Increased quality and fewer errors:

It is expected that RPA will significantly reduce errors in the processes, which will increase output quality considerably.

4. Improved customer service:

Shorter lead times and high-quality process output are expected to ensure a better and more consistent customer service, focusing on the customer.

In addition to the typically expected benefits, some of the enterprises experience greater employee satisfaction, because the employees now avoid some of the tedious tasks. One of the financial enterprises also mentioned that RPA helps expose compliance breaches in the processes.



PwC recommends...

- RPA is a tool that drives standardisation, as it forces enterprises to scrutinise all processes and prepare detailed documentation on them all. We therefore recommend that you proceed with RPA - even if all your processes are not standardised.



PwC has learnt...

The majority of the respondents fall into one of the following two categories when it comes to the reason for commencing an RPA project:

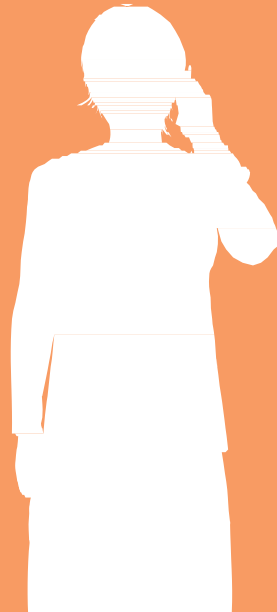
- RPA (and other automation measures) is seen as a natural part of the standardisation and harmonisation projects and strategies, and is included as yet another initiative made for the purpose of a more lean and efficient business.
- RPA is seen as an alternative to the expensive and time-consuming conventional, fully integrated IT solutions, or as a temporary solution, which can be rapidly implemented until a more robust fully integrated solution has been developed. RPA is therefore also at times referred to as a "stopgap measure". Enterprises participating in the survey who have a particularly fragmented IT landscape with many legacy systems often fall into this category.
- Unstandardised processes keep enterprises from investing in RPA: Common to all the respondents who have not yet commenced an RPA implementation is that they believe that their processes are not ready and sufficiently standardised to be automated. One of the respondents expressed concern that it will require "too much effort compared to the output."

If we could start over with the implementation of RPA, we would have...

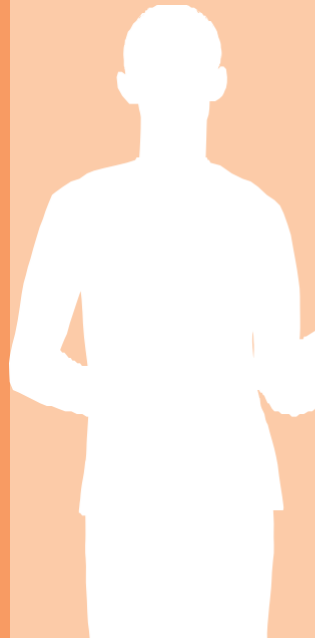
"... secured earlier buy-in from the executive management."



"...established a Centre of Excellence earlier in the process."



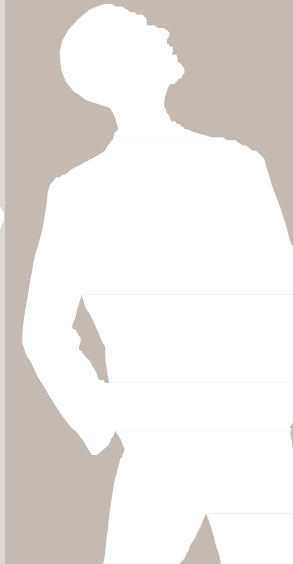
"... involved IT in the analysis and the choice of RPA software."



"...chosen another RPA tool."



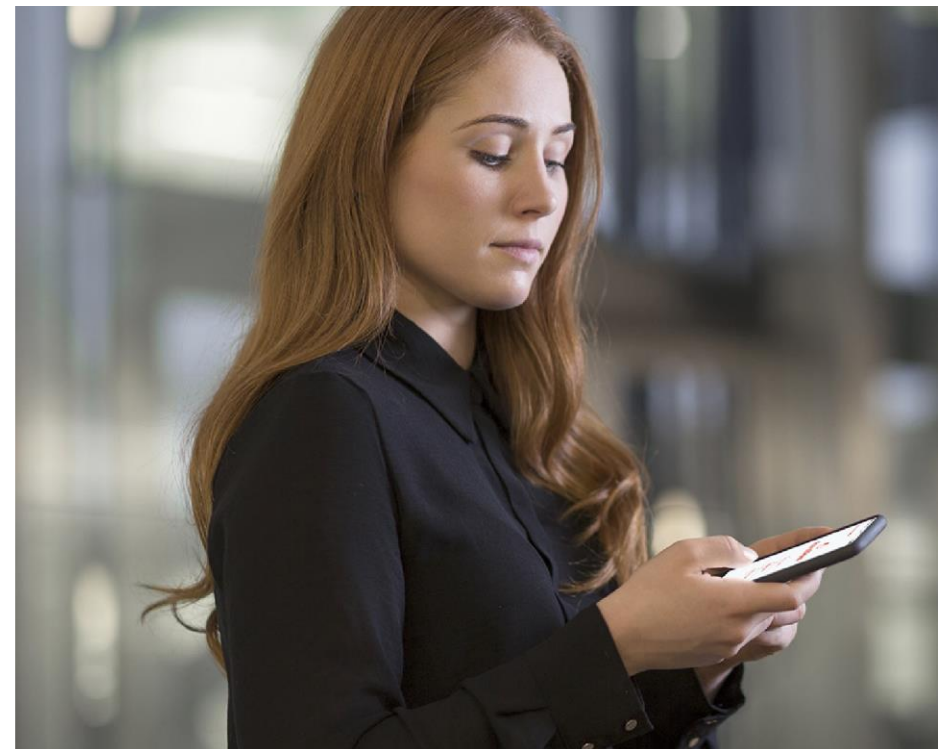
"... applied a smaller and more simple process for the Proof of Concept work."



"... engaged in discussions concerning IT infrastructure, such as user access, at an earlier stage."







What's next? + RPA and PwC's Robotics team in short

What's next?

Considerations about cognitive solutions and artificial intelligence are not far into the future, but for now, we focus on RPA

Cognitive solutions must wait – now, we focus on RPA

Many of the enterprises mentioned that, right now, their focus is on RPA and completion of a successful and reliable implementation. They want to ensure a stable operation and well-established governance before they take the next step. They do anticipate, however, that a few years into the future they will start exploring and testing the use of more sophisticated IT tools with cognitive solutions, such as virtual assistants, machine learning and artificial intelligence.

Only a few enterprises are exploring cognitive solutions

A few of the enterprises participating in the surveys - especially the financial firms - have gradually started Proof of Concept work comprising, for example, virtual assistants and machine learning. The enterprises that have come the farthest in their RPA implementations, and which are now exploring cognitive solutions, consider this technology the next natural step in closing the process gaps that RPA cannot cover. Other enterprises have commenced cognitive solutions projects as independent projects concurrently with the RPA project and hope that in future, the two solutions can be integrated when the cognitive technologies become more mature and thoroughly tested.

The enterprises are expanding their RPA software portfolio to include assisted automation

Several of the enterprises who have already implemented RPA have learnt that the various RPA tools are not equally suitable for all processes. Therefore, a majority are now investigating the possibilities of developing their skills further to cover yet another type of RPA software in addition to the software they currently use. It is particularly the need to be able to use assisted automation that is pushing them to expand their RPA portfolios. One of the enterprises has recently implemented a new RPA tool based on a need for assisted automation while the rest are still at the research stage.



PwC recommends ...

- It makes sense for major enterprises to use different RPA software for different types of issues and processes. RPA suppliers have different focus areas and their software differentiates in terms of functions, set-up and applicability. By involving several tools, the dependence on the individual supplier is reduced.



Did you know...?

- Many RPA suppliers have started to integrate cognitive elements such as text analytics, image recognition and machine learning to also be able to handle processes with unstructured data.



PwC predicts that...

- RPA and cognitive tools and solutions will be gathered under one business unit that will work with automation and digitisation of processes and business procedures. With this approach, enterprises can achieve synergies through easier integration of the tools and by using them with an end-to-end approach.

What is Robotic Process Automation?

Robotic Process Automation is just one out of a full range of tools within automation and digital labour. RPA is still relatively new to many enterprises, but early adopters have already begun looking ahead.

Robotic Process Automation is ...



... virtual 'robots' which are integrated with existing software



... repetition of desktop actions

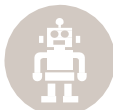


... configurations that automate manual and repetitive tasks.



... driven by simple rules and business logic

Robotic Process Automation is not ...



... a human-like robot



... software that can think for itself... yet

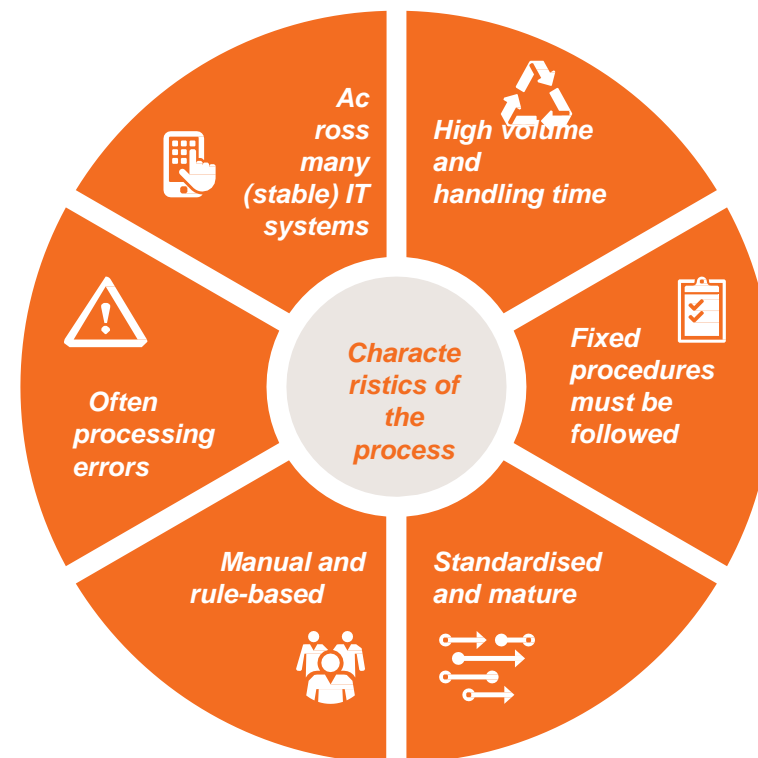


... something which can replace the employees entirely



... just another cost-saving tool. There are many other advantages.

... and is normally applied to processes with the following characteristics:



Contact us to hear more about how we may help with RPA implementation

PwC's Robotics team can help you with ...



Feasibility study
... to identify and analyse the enterprise and its potential for using RPA.



Choice of RPA software provider
... to navigate in a complex and diverse market of RPA suppliers. We make your decision easier.



Proof of Concept/pilot
... to implement a solution in the selected RPA software and test whether the software meets the enterprise's requirements.



Implementation, scaling and governance
...to implement RPA efficiently and smoothly throughout the enterprise.



Maturity analysis
... to assess opportunities for improvement in terms of the current RPA set-up.

Would you like to hear more about the possibilities for your enterprise? PwC's Robotics team helps organisations with everything from the initial analysis of the potential for using RPA to the actual implementation of the technology. We would also be pleased to assist with integration of RPA in the organisation, and we provide organisations and their employees with the tools necessary to be able to handle RPA internally in future.

Learn more

Read more about PwC's RPA services at pwc.dk/rpa or about our general services at pwc.dk/consulting



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