

ROBOTICS PROCESS AUTOMATION (RPA)

ΜΑΘΗΜΑ: ΠΛΗΡΟΦΟΡΙΑΚΑ ΣΥΣΤΗΜΑΤΑ ΔΙΟΙΚΗΣΗΣ ΚΑΙ ΕΠΙΧΕΙΡΗΣΙΑΚΩΝ ΠΟΡΩΝ

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Why Robotic Process Automation?



What is Robotic Process Automation (RPA)?

RPA is not actual robots in a production line but rather a software that can be configured to undertake rule-based tasks



Robots are ...

- Computer-coded software
- Programs imitating human interaction with applications
- Cross-functional and cross application macros



... applying their skills...

- Validate and Analyze
- Gather and Collate Information
- Record Data
- Calculate, Decide and Produce
- Orchestrate and Manage
- Transport and Communicate
- Report



... on appropriate processes

- Rule-based & repetitive
- Based on structured input data
- Mid-to-high transactional volume
- Prone to human error



What it can do

In an **RPA** solution, robots are capable of mimicking most user actions..

Το RPA είναι μια τεχνολογία επιχειρηματικής διαδικασίας αυτοματισμού με τεχνητή νοημοσύνη (TN).

Οι προγραμματιστές δημιουργούν και εκπαιδεύουν την TN, ώστε οι ενέργειές τους να μιμούνται τους ανθρώπους. Είναι εικονικά ρομπότ που αλληλεπιδρούν με διάφορους άλλους τύπους λογισμικού και στοιχεία στις υποδομές του ψηφιακού συστήματος. Τα ρομπότ RPA χειρίζονται επαναλαμβανόμενες ψηφιακές εργασίες. Όσες περιλαμβάνουν πολλούς κανόνες και περιορισμούς αποτελούν το πεδίο δράσης των ρομπότ RPA.

Manual Process

- Opening email and attachments
- Logging into web/enterprise applications
- Moving files and folders
- Copying and pasting
- Filling in forms
- Reading and writing to databases

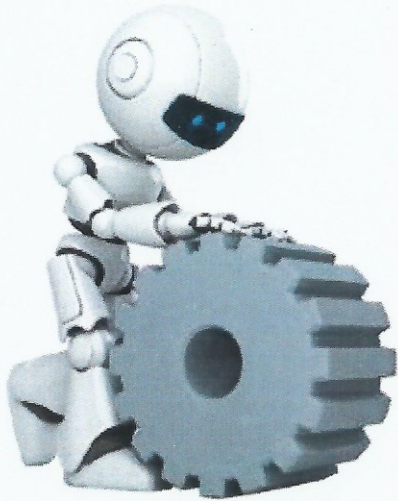


Judgment Process

- Scraping data from the web
- Connecting to system APIs
- Making calculations
- Extracting structured data from documents
- Collecting social media statistics
- Following "if/then" decisions/rules

Why should organizations adopt RPA?

Organizations are looking to automate processes to free up resources for critical initiatives, rapidly streamline processes and drive competitive advantage



**Beyond cost efficiency, RPA
may bring a multitude of
benefits to your
organization**

What type of processes are applicable for RPA?

Which activities Process Robotics can take over from employees, depends on a number of criteria that processes have to meet

1 What can Process Robotics do for me?

1a. Gather, collate and validate information

1b. Synthesize and analyze structured *and unstructured data*

2. Record and transport information and data

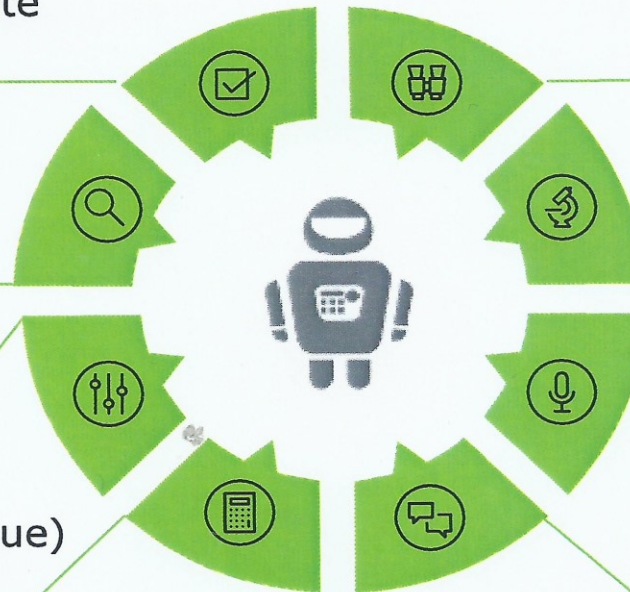
3. Calculate (a position or value) *and/or decide (what to do)*

4. Communicate with *and assist* users, clients and customers

5. Orchestrate and manage activities (both robotic and people based)

6. Monitor, detect or report operational performance

7. *Learn, anticipate and forecast (behavior or outcomes)*



2 Which criteria help determine if my processes are suitable to automate by means of Process Robotics?

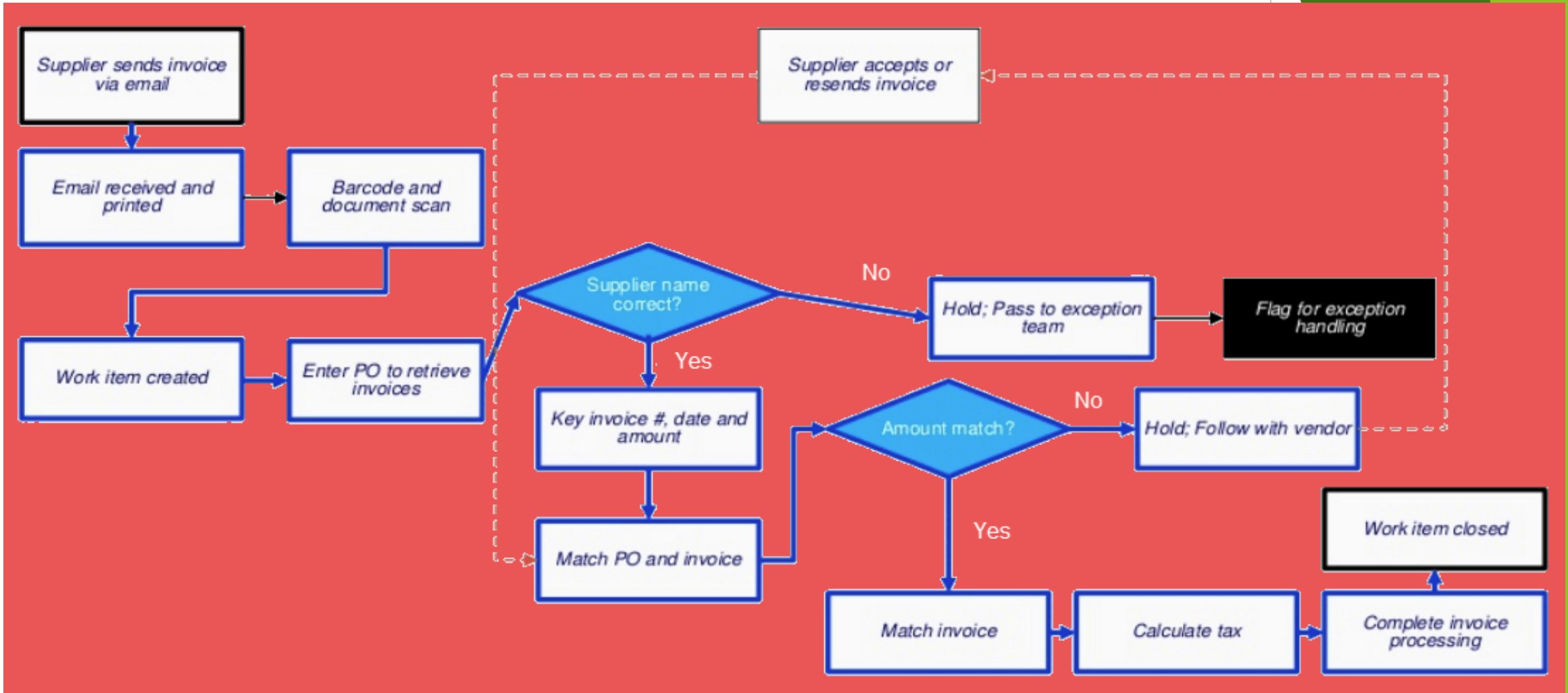
- Digitally available and structured data
- High volume of manual processing
- Routine tasks, completely rule-based
- Prone to human error
- Limited automation available

3 Where can I find these processes?

- Mid- & back office processes
- Call centers first-line support
- Data quality exploration and improvement
- Migration of cases from source to target systems
- Monitoring and social listening



Example of RPA



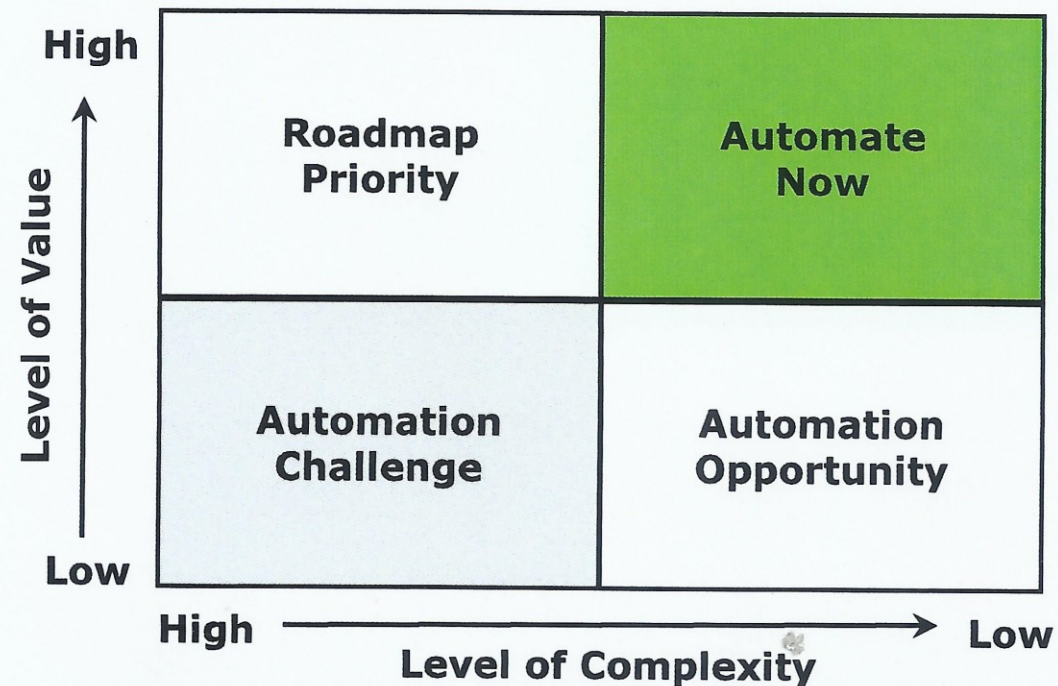
Example of RPA

Description	Can be Automated via RPA?
Open invoice email from the supplier and print it for records	Yes
Barcode Scanning	Manual
Create work item in a legacy software system	Yes
Enter PO to retrieve Invoices	Yes
Check supplier name is correct or not?	Yes
Key Invoice, Data and Amount	Yes
Check if Amount is matches or not?	Yes
If amount match is yes the Matched Invoice, Calculate Tax	Yes
Complete Invoice Processing	Yes
Work Item Closed	Yes

Process selection and prioritization

Deloitte supports process selection for automation by measuring value against complexity in the RPA Process Selection Matrix

RPA Process Selection Matrix



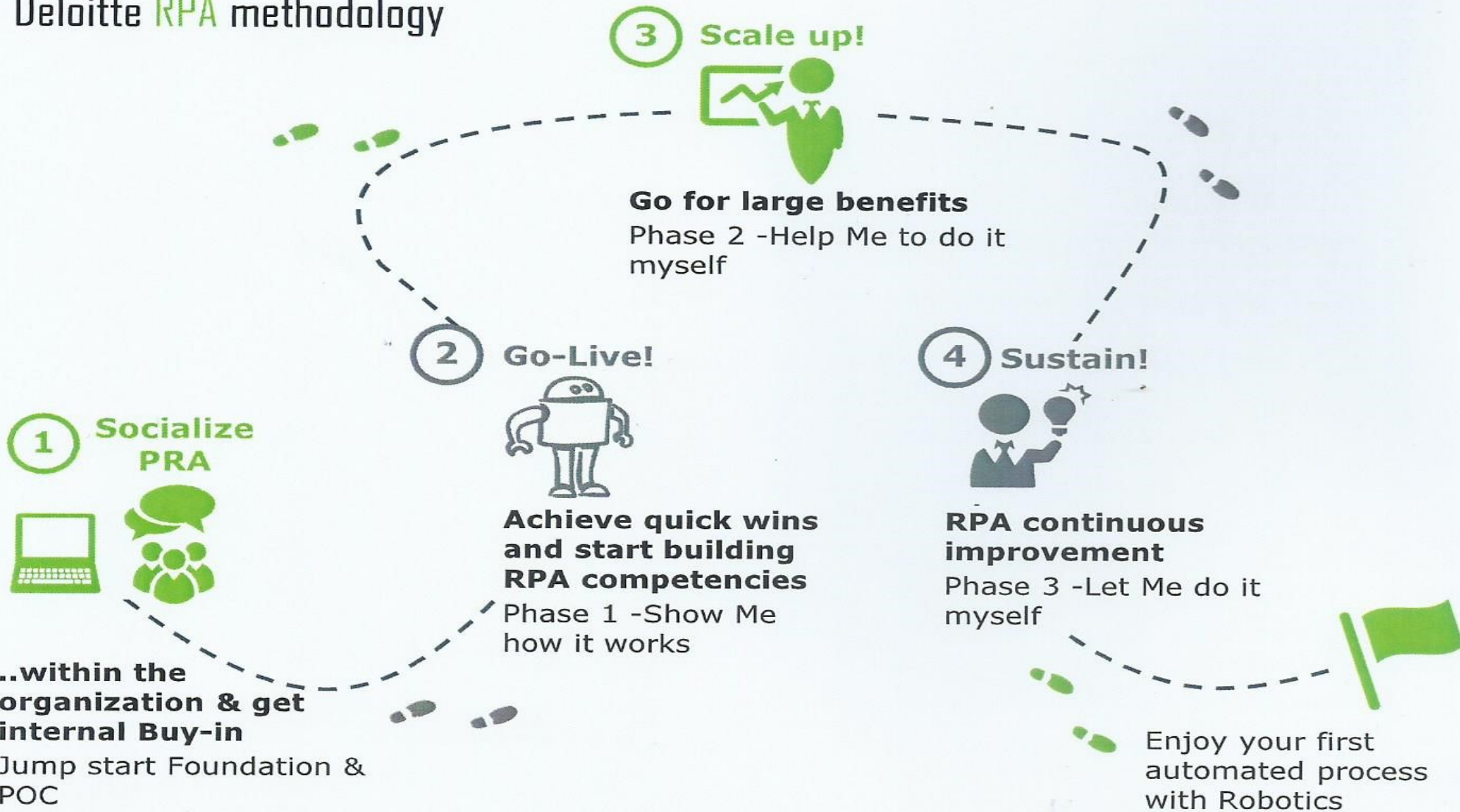
RPA in different fields

- ▶ **Banking, Finance, and Insurance:** There are massive amounts of transactional processes in this industry that RPA can automate, from internal-only documents to deposits, withdrawals, and payouts.
- ▶ **Healthcare:** The benefits of RPA in healthcare industries include shorter waiting times, more detailed medical records, and reduced loads of administrative works.
- ▶ **Manufacturing:** The RPA in manufacturing industries does not only facilitate administrative works. It also works hand-in-hand with the existing software bots to streamline operational processes.
- ▶ **Transport and Logistics:** The order management, the distribution cycles of each order that customers make, and the supply chain linkages are the three things that become the benefits of RPA in the transport and logistics industries.
- ▶ **Utility companies:** The three products of utility companies are electricity, gas, and water. There are always monetary transactions in utility companies since many people need these three products. The job of RPA involves automating these transactions. In particular, the RPA lets utility company workers measure the meters accurately

Differences between Test Automation and RPA

Parameter	Test Automation	RPA
Goal	Reduce Test execution time through automation	Reduce headcount through automation
Task	Automate repetitive Test Cases	Automate repetitive Business processes
Coding	Coding knowledge required to create Test Scripts	Wizard-driven, and coding knowledge not required
Tech Approach	Supports limited software environment. Example: Selenium can support only web applications.	Supports a wide array of software environments
Example	Test cases are automated	Data entry, forms, loan processing, is automated
Application	Test Automation can be run on QA, Production, Performance, UAT environments	RPA is usually run only on production environments
Implementation	It can automate a product.	It can automate a product as well as a service.
Users	Limited to technical users.	Can be used across the board by all stakeholders.

Deloitte RPA methodology



RPA Implementation Methodology

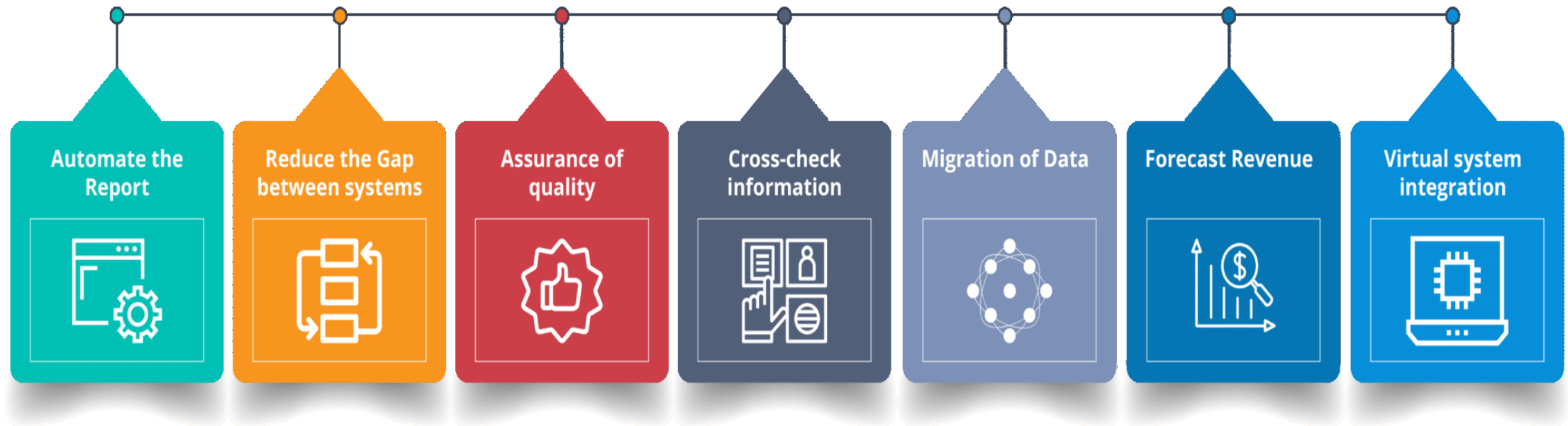
- ▶ Planning/Analysis
- ▶ Development/Bot Development
- ▶ Testing
- ▶ Support & Maintenance

Best Practices of RPA Implementation

- ▶ Αναγνωρίστε τον επιχειρησιακό αντίκτυπο πριν την επιλογή της διαδικασίας RPA
- ▶ Καθορίστε και εστιάστε στην επιθυμητή απόδοση επένδυσης (ROI).
- ▶ Εστιάστε στη στόχευση μεγαλύτερων ομάδων και στην αυτοματοποίηση μεγάλων διαδικασιών που έχουν αντίκτυπο
- ▶ Συνδυάστε RPA με και χωρίς ανθρώπινη παρέμβαση (attended and unattended RPA)
- ▶ Ο κακός σχεδιασμός, η διαχείριση αλλαγών μπορούν να προκαλέσουν χάος
- ▶ Μην ξεχνάτε την επίπτωση στους ανθρώπους

General Use of RPA

General Use of RPA



Application of RPA

Healthcare

- Registration of Patients
- Maintaining Records of Patients

HR

- Joining Formalities of new Employees
- Process of Payroll

Telecom

- Service Order Management
- Quality Reporting

Insurance

- Processing & Clearance of Claims
- Providing Premium Information

Retail Industries

- Maintaining Bills of Materials
- Calculation of Sales

Travel & Logistic

- Booking of Tickets
- Maintaining Passenger Details

Robotic Process Automation tools

Selection of RPA Tool should be based on following 4 parameters:

- ▶ **Data:** Easy of reading and writing business data into multiple systems
- ▶ **Type of Tasks mainly performed:** Ease of configuring rules-based or knowledge-based processes.
- ▶ **Interoperability:** Tools should work across multiple applications
- ▶ **AI:** Built-in AI support to mimic human users
- ▶ **Popular Robotic Automation Tools:** **Blue prism, Automation AnyWhere, UiPath etc..**

Ten most popular Robotic Process Automation (RPA) tools in 2021

- ▶ **Eggplant** - The end-to-end automation process; interact with multiple systems in a device.
- ▶ **JAMS by HelpSystems** - centralizes the scheduling process in a company across all platforms and applications.
- ▶ **Power Automate by Microsoft** with the MS security technology-protected tool automation feature.
- ▶ **UiPath** - The open-source RPA tool can automate any desktop or web apps.
- ▶ **Blue Prism** does not require advanced programming skills to generate flowcharts.
- ▶ **OpenConnect** with the secure and encrypted data system that addresses almost all types of operational and competitive challenges.
- ▶ **WorkFusion**, a SaaS crowd computing platform that lets the users deploy as many RPA robots as they need to automate software tasks for a group.
- ▶ **Pega**, an RPA tool for medium and large businesses to provide cloud-based solutions.
- ▶ **Nice System** with its virtual assistant to automate mundane employee tasks.
- ▶ **Kofax** integrates well with the Kapow Katalyst platform

Benefits of RPA



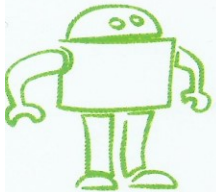
Efficiency & Quality

- Robots perform tasks with a **high degree of accuracy** and operate 24x7 leading to **high-throughput**
- RPA **streamlines, standardizes and optimizes the processes**, improving quality and reducing costs



Scalability & Expertise

- A process can be **automated quickly**, reducing reliance on recruitment to handle workload spikes
- Process automation helps **engage talent** by freeing up capacity **to develop new competencies and build expertise**



Governance & Compliance

- Robotic platforms are **secure, audited and managed** within an IT corridor of governance
- Process automation enables **improved quality/ consistency of data**, that can **result in better analytics, insights and increased revenue**



Competitive Advantages

- RPA has a **short payback period** since robots drive existing applications **with low integration costs**
- RPA provides **high potential ROI** which can be leveraged to drive critical initiatives



Insource & Control

- RPA opens new doors for insourcing finance processes by providing **greater control over service delivery model**

Benefits of RPA

- ▶ Μεγάλοι όγκοι μιας διαδικασίας μπορούν εύκολα να έχουν αυτοματοποιηθεί.
- ▶ Το κόστος μειώνεται σημαντικά καθώς το RPA φροντίζει για επαναλαμβανόμενες εργασίες και εξοικονομεί πολύτιμο χρόνο και πόρους.
- ▶ Δεν απαιτούνται δεξιότητες προγραμματισμού για τη διαμόρφωση ενός ρομπότ λογισμικού. Έτσι, οποιοδήποτε μη τεχνικό προσωπικό μπορεί να δημιουργήσει ένα bot ή ακόμα και να καταγράψει τα βήματά του για να αυτοματοποιήσει τη διαδικασία.
- ▶ Υποστηρίζει ρομποτική αυτοματοποίηση διεργασιών και επιτρέπει τις διαδικασίες συμμόρφωσης & ελέγχου χωρίς σφάλματα.
- ▶ Το ρομποτικό λογισμικό μπορεί γρήγορα να μοντελοποιήσει και να αναπτύξει τη διαδικασία αυτοματισμού.
- ▶ Τα ελαττώματα παρακολουθούνται σε κάθε δοκιμαστική ιστορία.
- ▶ Αποτελεσματική, απρόσκοπτη διαχείριση Build & Release (επαναληπτική μέθοδος ανάπτυξης - iterative development)
- ▶ Ορατότητα στην ανακάλυψη σφαλμάτων/ελαττωμάτων σε πραγματικό χρόνο
- ▶ Δεν υπάρχει ανθρώπινη δραστηριότητα που σημαίνει ότι δεν χρειάζεται χρόνος για την απαίτηση εκπαίδευσης.
- ▶ Τα ρομπότ λογισμικού δεν κουράζονται. Αυξάνει, γεγονός που συμβάλλει στην αύξηση της επεκτασιμότητας

Disadvantages of RPA

- ▶ Το bot περιορίζεται από την ταχύτητα της/των εφαρμογής/-ων με την οποία/-ες συνεργάζεται.
- ▶ Ακόμη και μικρές αλλαγές που γίνονται στην εφαρμογή αυτοματισμού θα χρειαστούν επαναδιαμόρφωση των ρομπότ.