



Hyperautomation

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The New Industrial Engineering: Information Technology and Business Process Redesign

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THOSE ASPIRING TO IMPROVE the way work is done must begin to apply the capabilities of information technology to redesign business processes. Business process design and information technology are natural partners, yet industrial engineers have never fully exploited their relationship. The authors argue, in fact, that it has barely been exploited at all. But the organizations that *have* used IT to redesign boundary-crossing, customer-driven processes have benefited enormously. This article explains why.

Sloan
Management
Review

11

Summer 1990

AT THE TURN of the century, Frederick Taylor revolutionized the workplace with his ideas on work organization, task decomposition, and job measurement. Taylor's basic aim was to increase organizational productivity by applying to human labor the same engineering principles that had proven so successful in solving the technical problems in the work environment. The

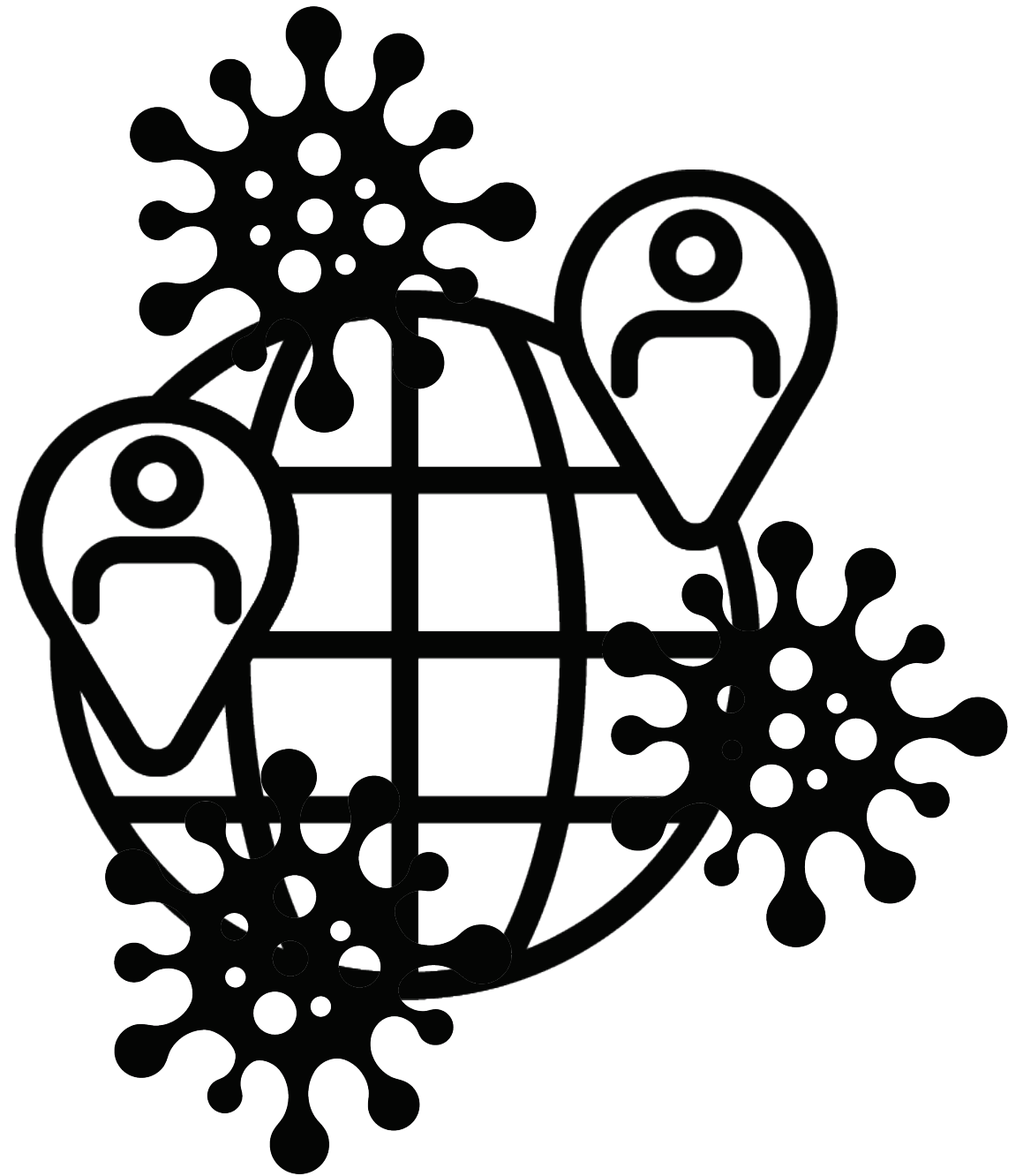
studies of five firms engaged in substantial process redesign. After defining business processes, we extract from the experience of the companies studied a generic five-step approach to redesigning processes with IT. We then define the major types of processes, along with the primary role of IT in each type of process. Finally, we consider management issues that arise when IT is used to redesign



State of the World

COVID-19:

- exposed *fragilities and vulnerabilities* in many international supply chains
- limited *humans' physical presence* in offices, warehouses and factories
- created *sudden peak pressure* on crisis management processes, healthcare, customer care, and governmental aid



State of Business

Organizations have a tremendous amount of “collective” debt (technical, process, data, architecture, talent, security and social)

Causes:

- an extensive and expensive set of business processes
- a patchwork of technologies that are often not optimized, lean, connected, consistent or explicit
- IT departments that cannot keep up with demand for their help



For every Facebook, Google or Baidu that uses data and algorithms to fully automate ad placement, there are hundreds of other types of enterprises that still perform operations with a large staff, extensive real estate, decades-old systems and other costly infrastructure.

Hyperautomation

- A **business-centric** automation approach
- That uses one or more **technologies**
- To **rapidly** automate and augment business processes
- In a **scalable** way



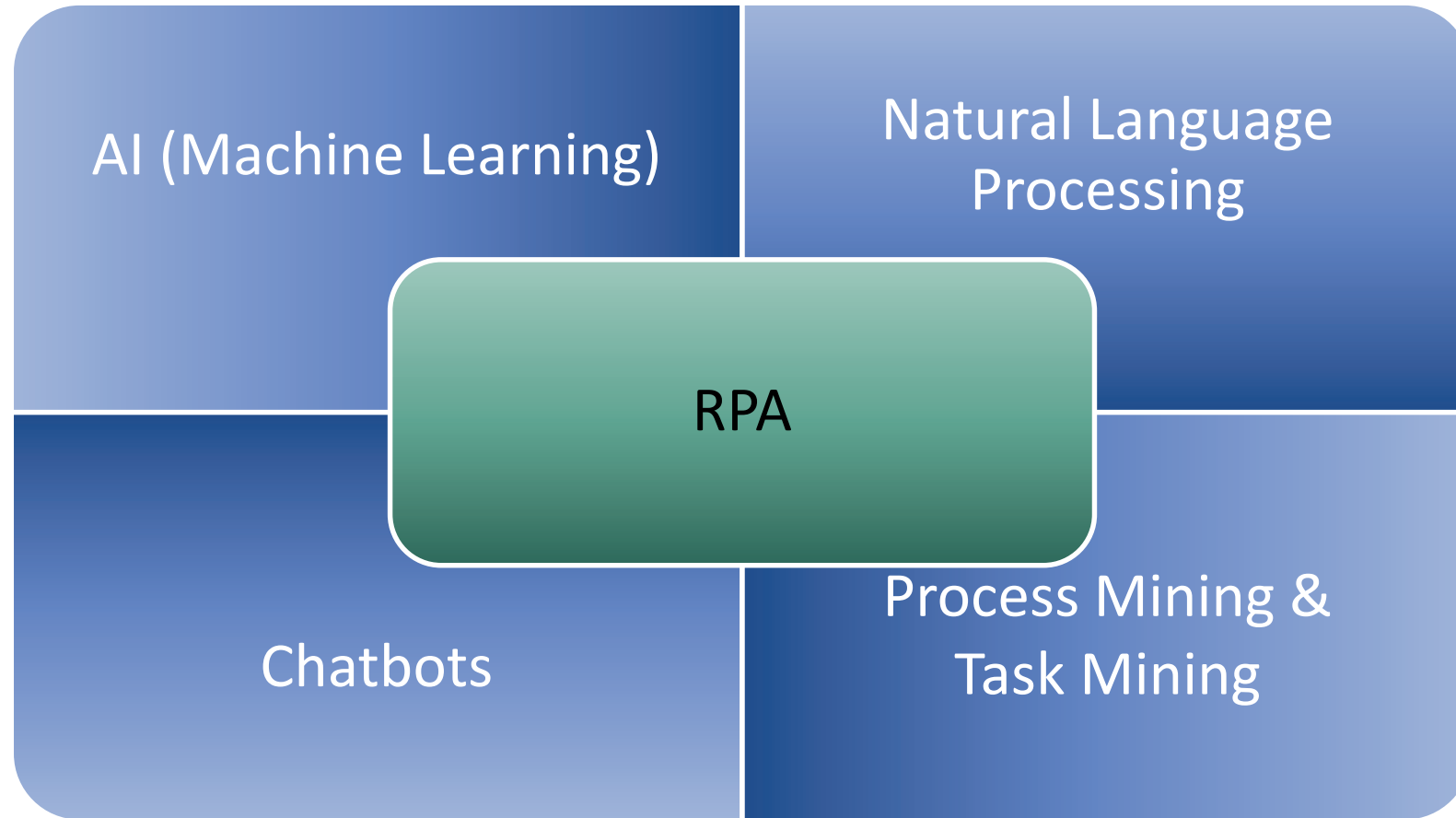


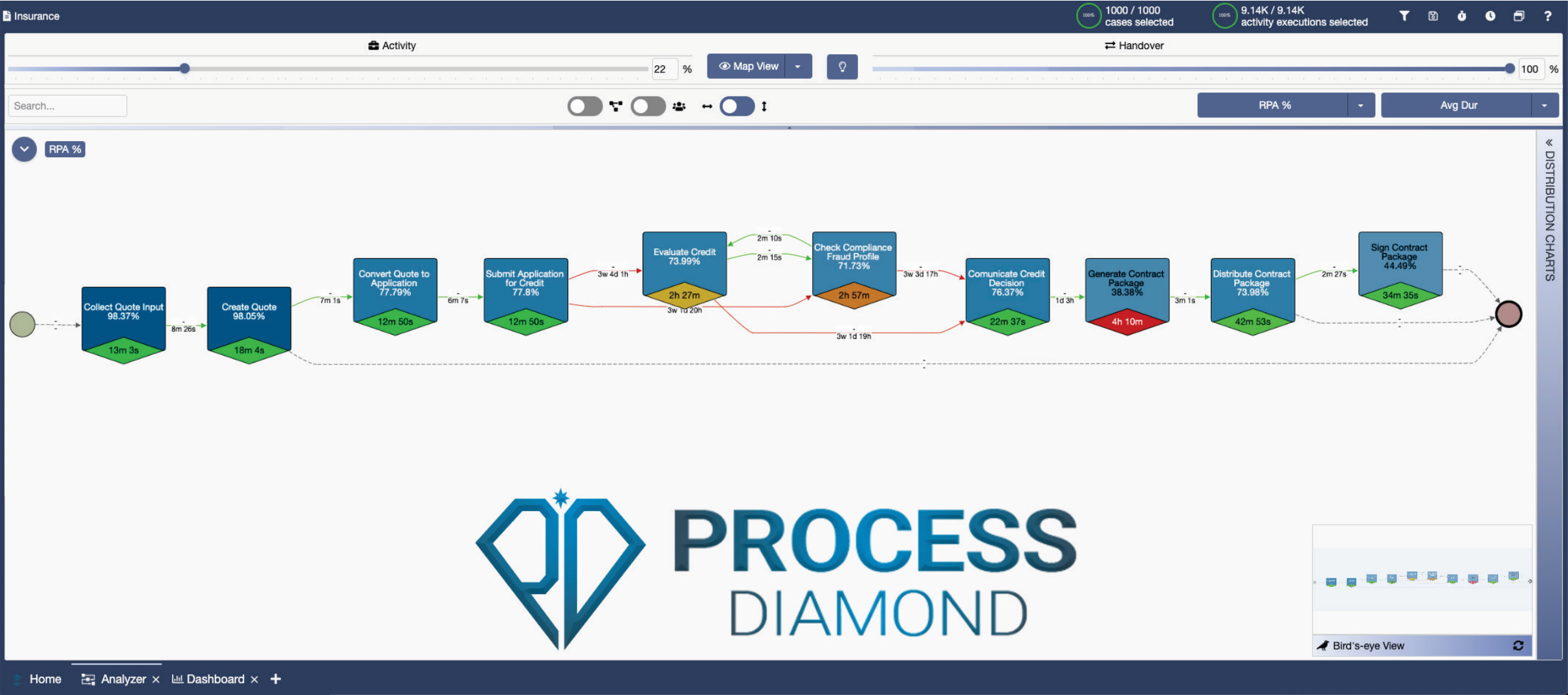


LIFE INSURANCE APPLICATION PROCESSING



Technologies





Positioning in BPM space



RPA

- Existing manual tasks
- Non-disruptive
- Fast and agile
- Business driven, DIY

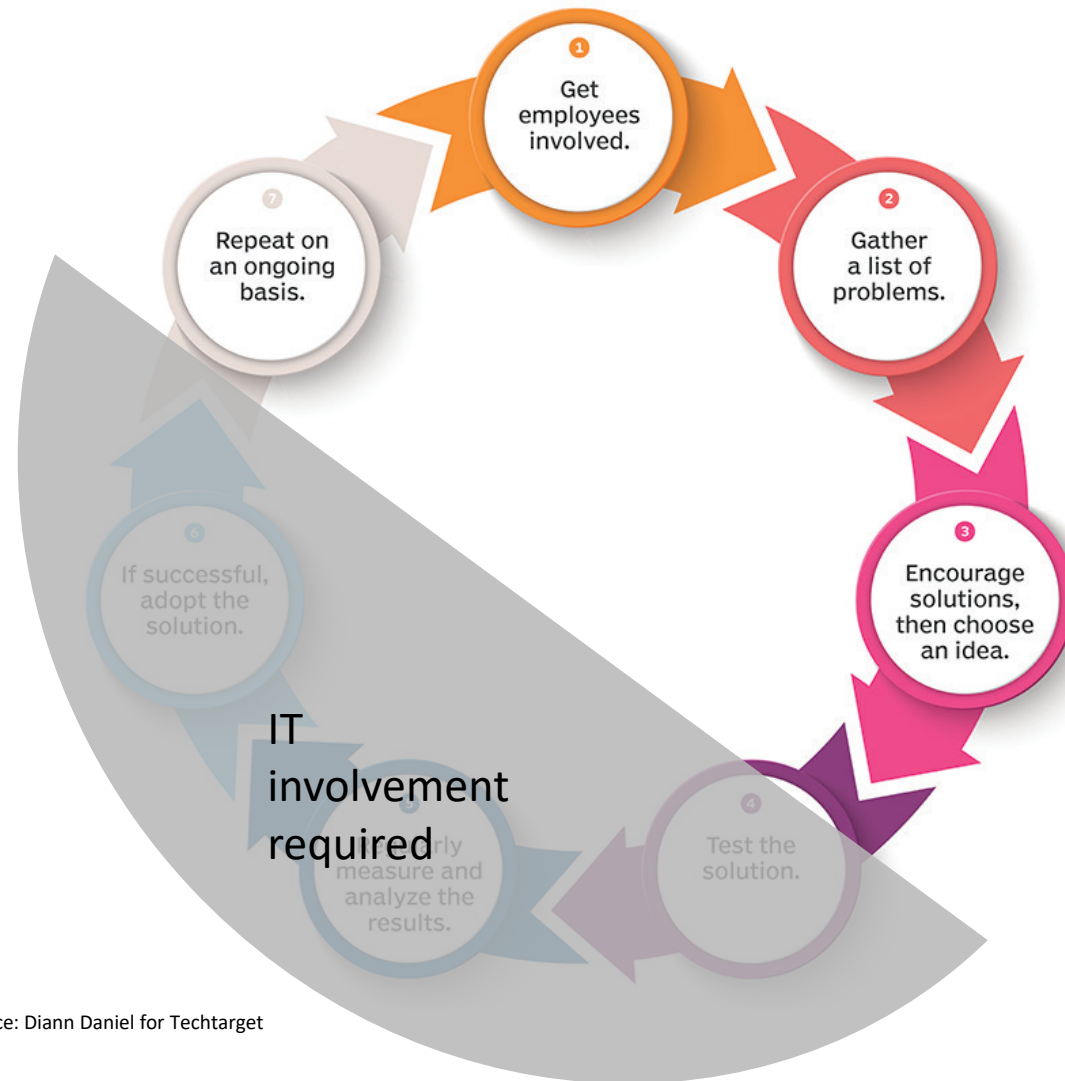


BPM

- End-to-end process
- Transformational
- Planned and long-term
- IT driven



Lean and RPA



Source: Diann Daniel for Techtarget

Case:

Municipal Health Services (MHS) in the Netherlands during Covid-19

... Covid-19 contact tracing researchers from the MHS complain to the “Volkskrant” newspaper about the use of system PZ. It is illogical and cumbersome, with a tricky UI and UX. Another problem is that the various MHS regions within the system cannot exchange information with each other, because those environments are technically separated.

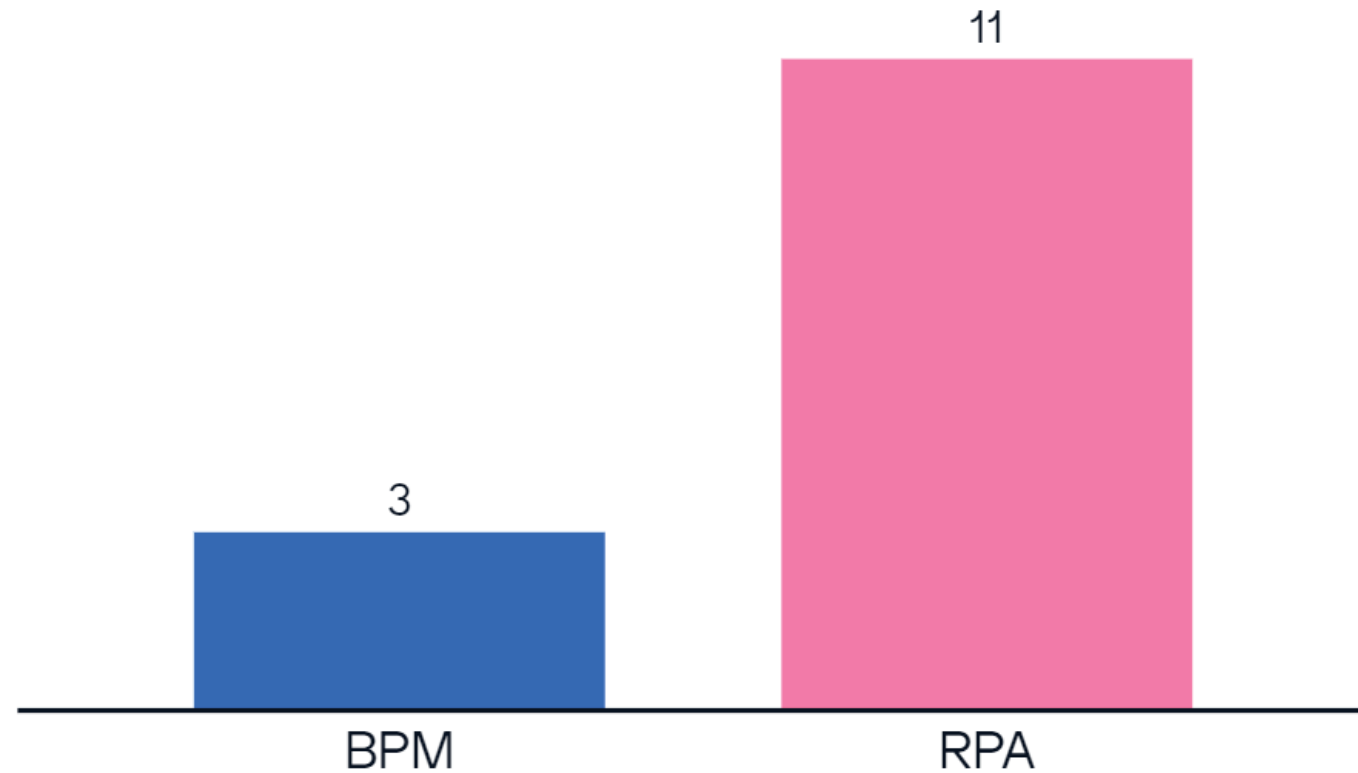
Contact tracing research suffers from software

The employees tell the newspaper that their contact tracing research is suffering from the complicated software. "With this program, contact tracing takes extra work and a lot of information is lost," an anonymous source told the newspaper. "And the software can

also easily crash and it sometimes takes half an hour to log in again." In the summer of 2020, it was decided to continue with PZ for contact tracing research. This happened in the run-up to its upscaling. From the beginning of June of this year, anyone with minor [Covid-like] complaints could have themselves tested for the virus. To this end it was necessary to use better software. The umbrella organization for the MHS recognized that PZ is not suitable for this and started looking for an alternative. This was available with Go.Data from the World Health Organization. However, the MHS objected, because PZ was their “trusted program”. Meanwhile, more ICT specialists have been hired to make the software more stable...



BPM or RPA?



And why?

fast solution is needed

need a short term solution

More appropriate

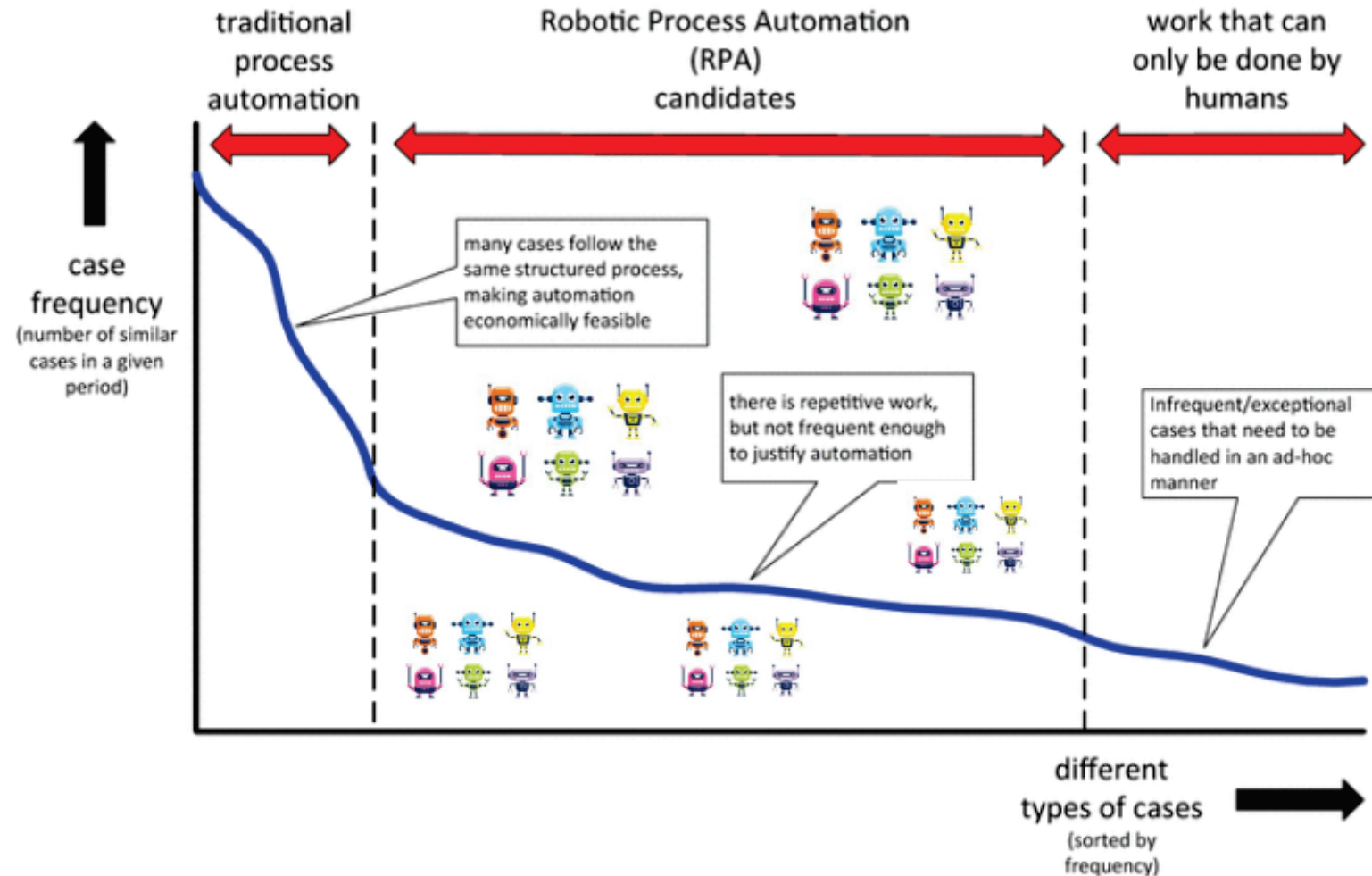
A fast and agile approach is needed
to ensure functionality

The problems need to be solved
within a short period of time

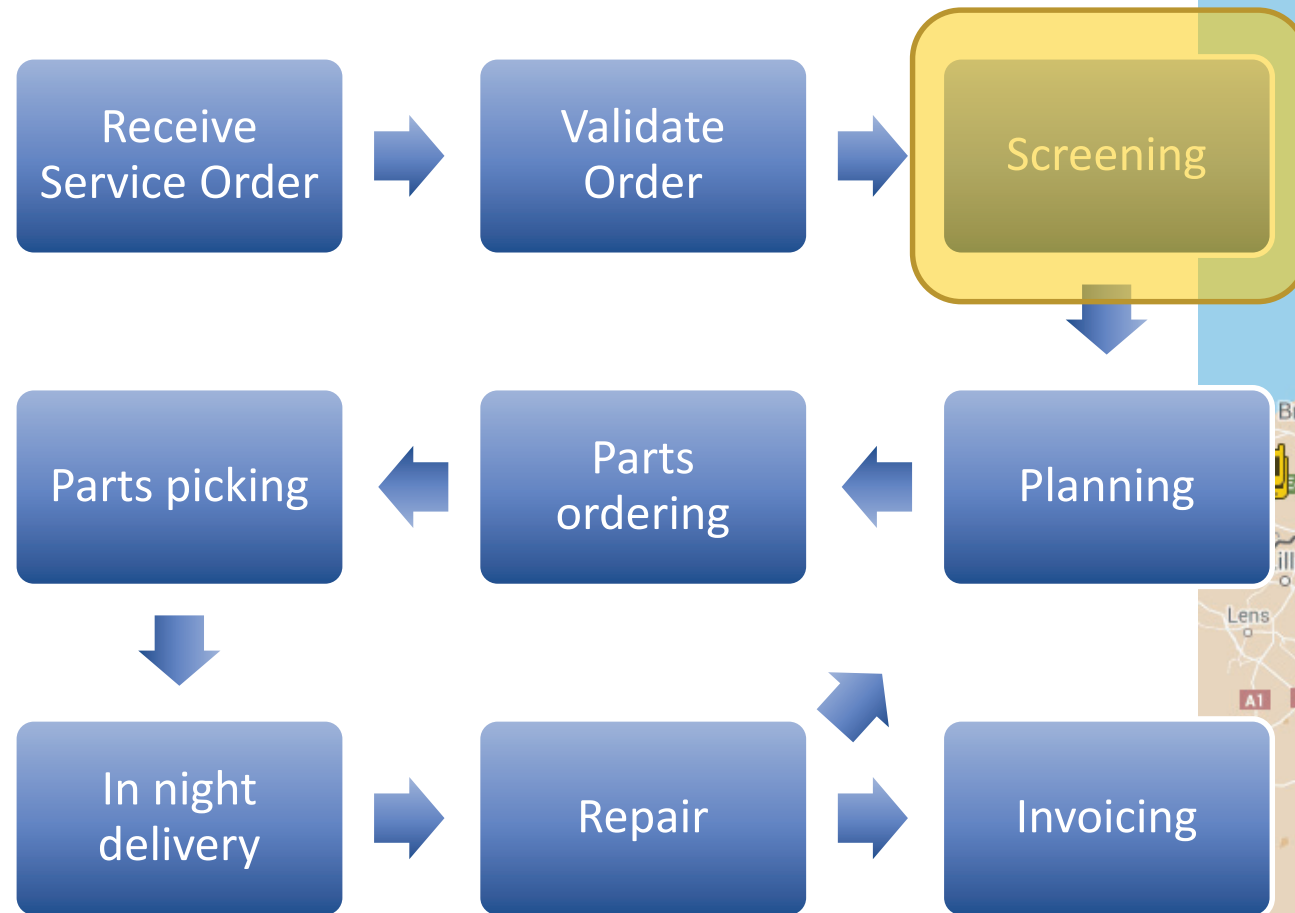
Actually, I would have clicked **both.**

BPM is too complicated for non IT
people to understand and implement
in a short time

Both would be a good option....

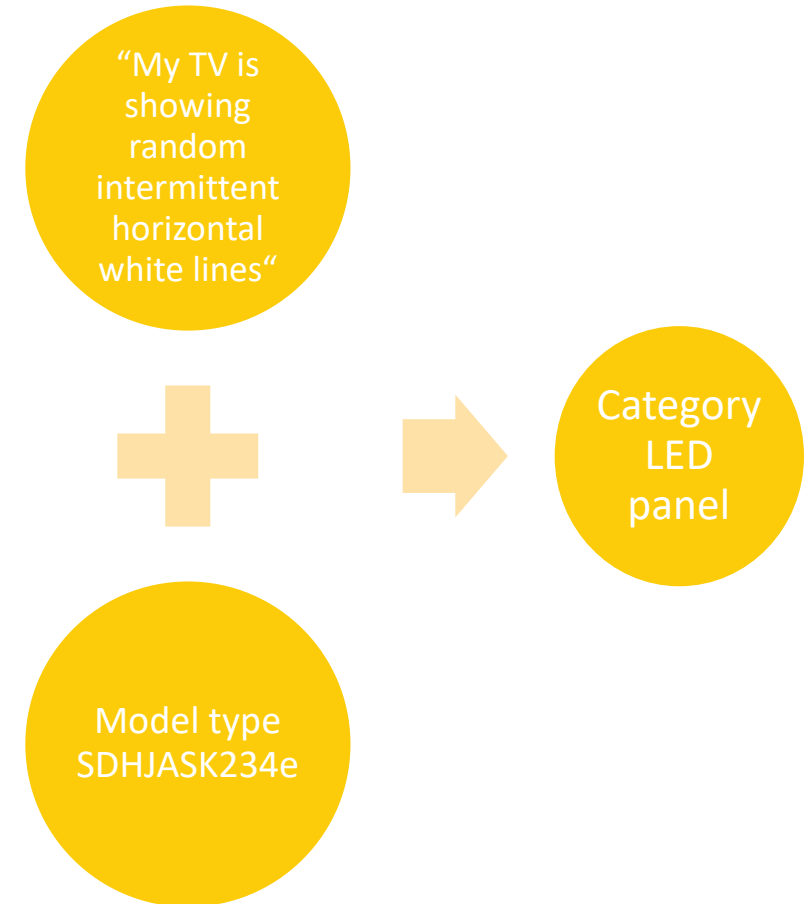


Case: Servilux on site repair process

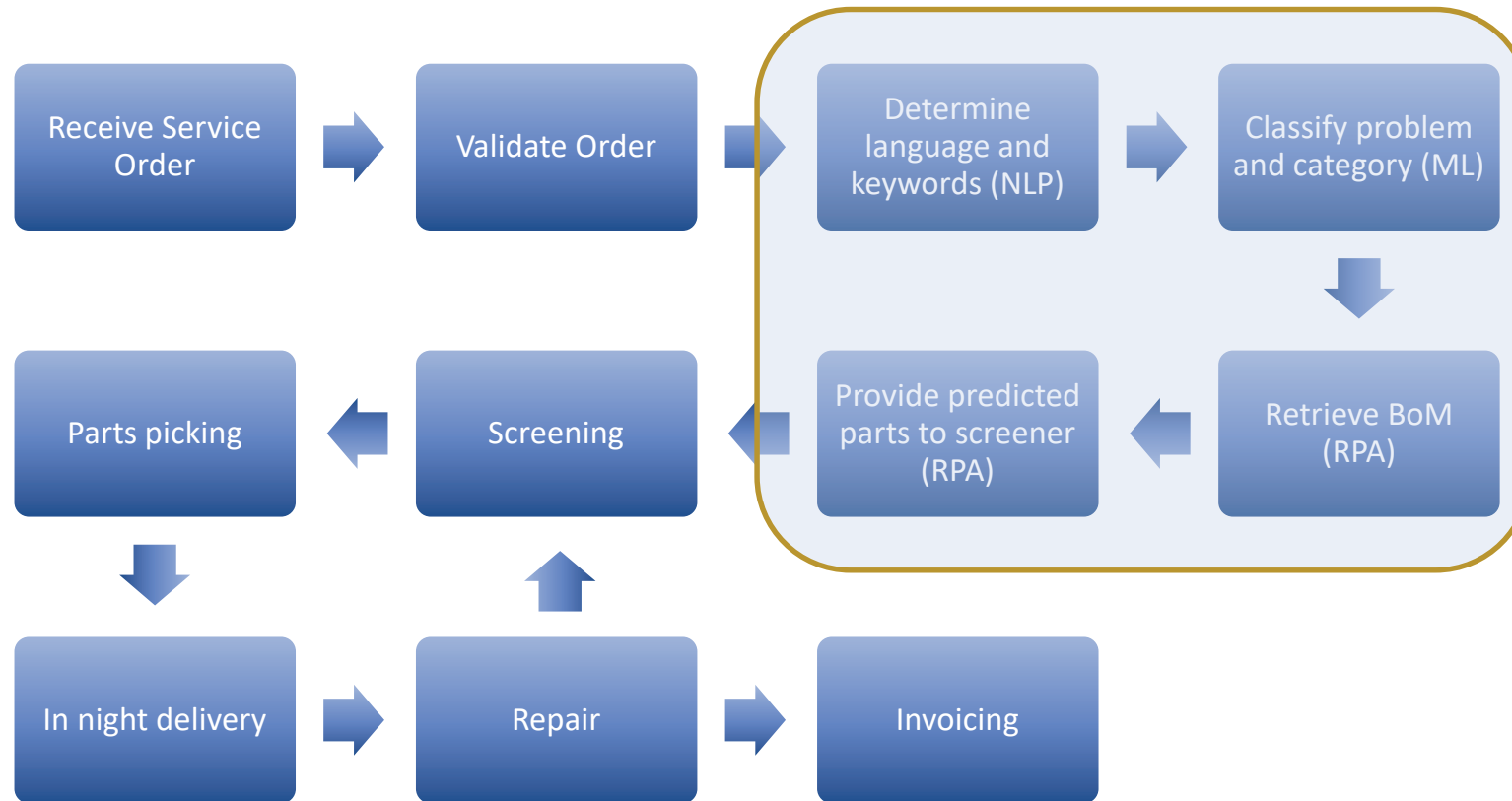


RPA, Machine Learning and Natural Language Processing

- Huge pile of historical data – complaint description & parts used
- Specific TV brand, in home, in warranty, Dutch & French language
- At least the same first-time-fix level (77%) with lower handling time



New process



The Future

From Exploitative to Explorative:

- New business / new business models

Open Challenges:

- Management of hyperautomation projects
- ROI
- BPM and RPA



*“In this new, hyper-competitive age,
none of us – none of us – can afford
to be complacent.”*

**Barrack Obama in his commencement address at
Arizona State University on May, 13, 2009**

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