GroeiFabriek

Innovation Lab

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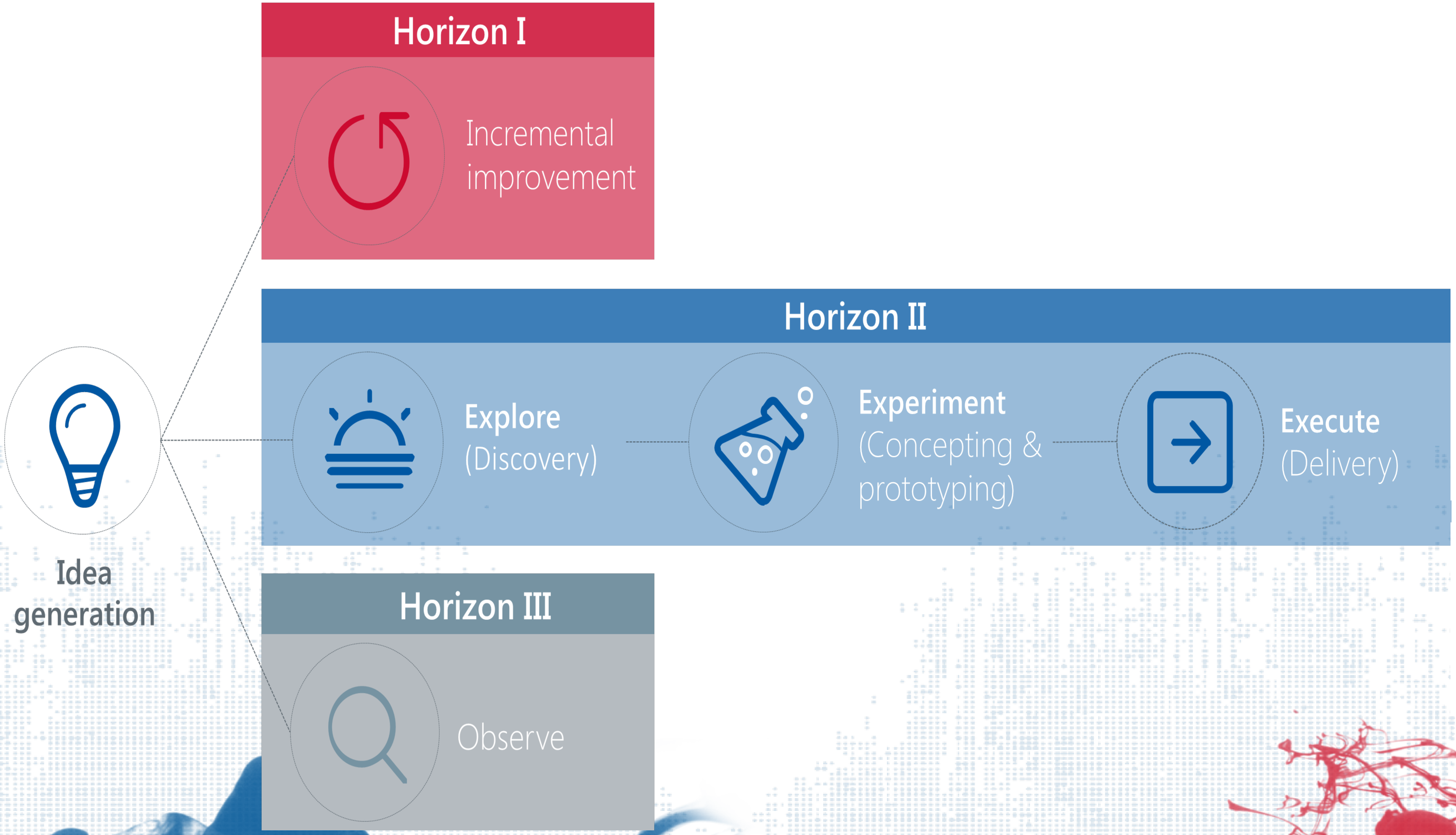
Innovation @ APG in three horizons

Innovation horizons (McKinsey)



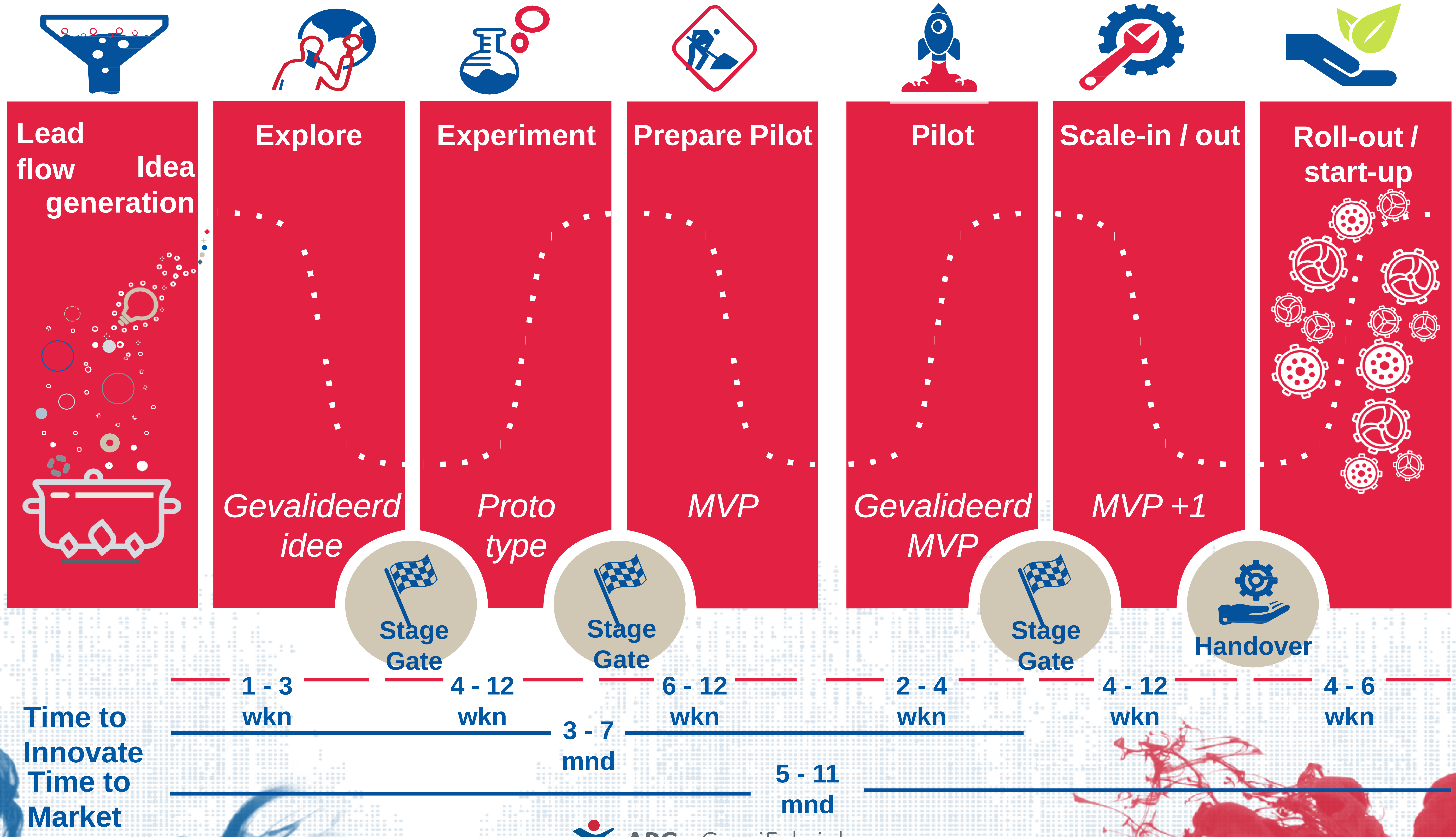
Approach

- Growth or cost savings
- 1 Yr. Implementation / maturity horizon

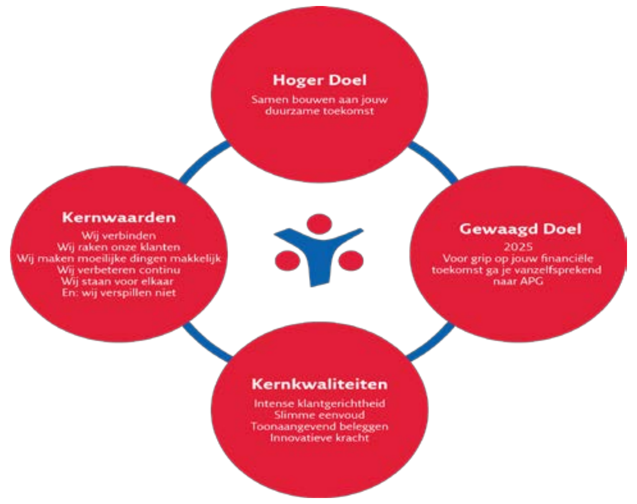
- New technologies, business models, experimental focus
- 1-3 Yr. implementation horizon

- Open ended, research driven
- 5-10 Yr. focus

Innovation Process



APG's mission and ambition



Maximising pension value

Under the precondition of long-term business economic health

Leading pension performer	Strong funds	Trusted guide
Providing most income years for participants in a sustainable way	3 Help our fund clients to strengthen relevance by strengthening ties with participant and employer	4 Helping participants to make conscious choices regarding income for later and offer appropriate solutions

1 Lowest administation cost

2 Highest net return on investment

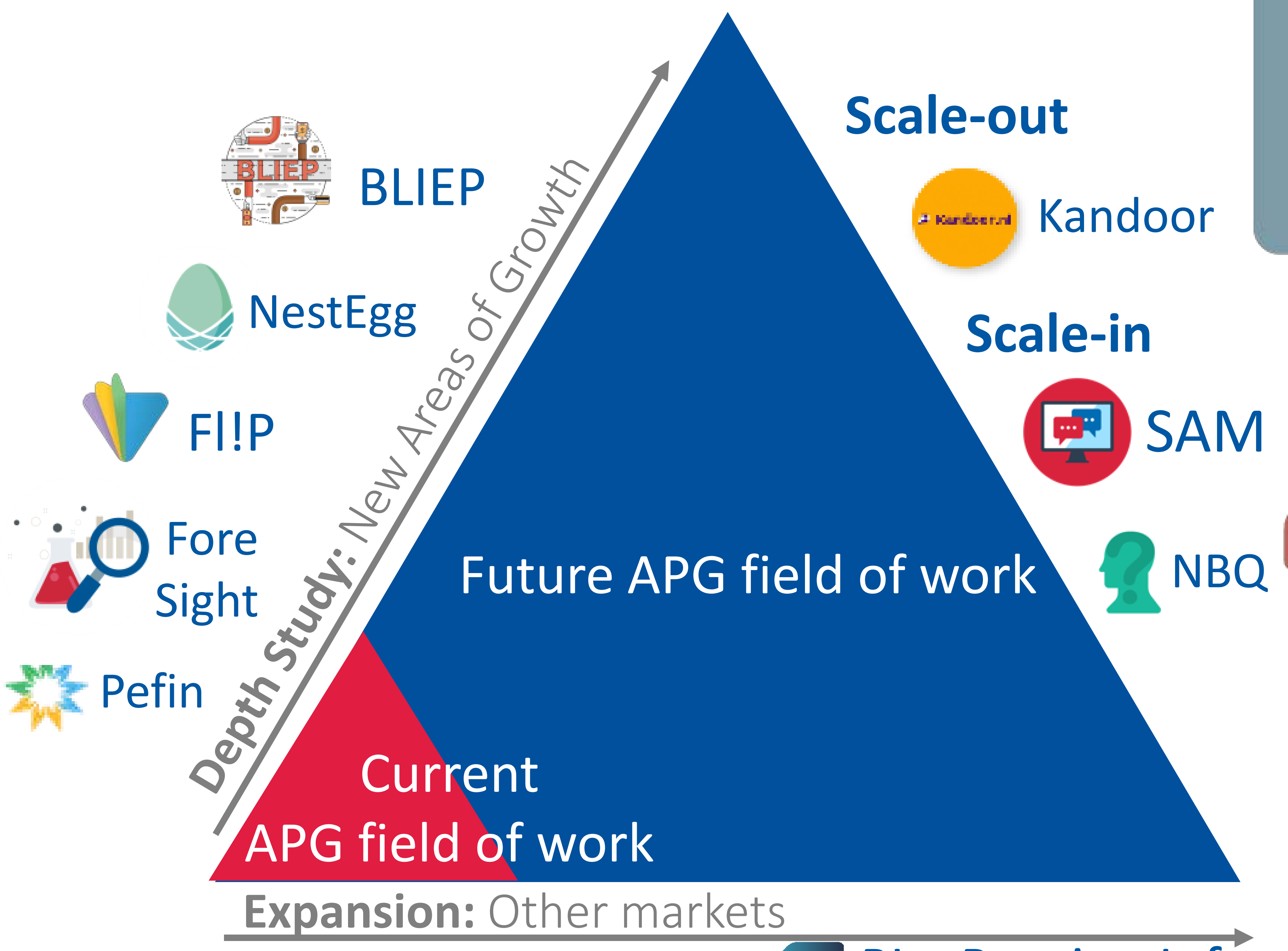
5 Robust and agile HR and ICT foundation and efficient staffs

Drivers for innovation

	Themes/Trends	APG's challenges
Expansion	Longevity	Costs drastically reduced and next to this enter into new relationships with the target group "people that stopped working"
Expansion	Changes in the labor market	Our existing relationships & processes are changing
Depth Study	Change in work ethic & lifecycle	APG's current products and services are not able to support the future work and life cycle
Depth Study	Regulated solidarity towards individually selected parts	More transparency in the consumers financial and health status. They want to decide with whom they share risks
Depth Study	The consumer decides	In the future consumers will choose based on their own interests (eg costs, Corporate Social Responsibility, ease of use, etc.)
Depth Study	AM specific	Long-term investments and new forms of investment
Enablers	Fading borders between sectors	Cross-over between the pension industry and other sectors is minimal. We need to look for new forms of cooperation.
Enablers	Communities (majority trough platformization)	Pension executives do not organize themselves in communities through platforms and therefore lack customer
Enablers	Technologies	Knowledge in current pension execution is immature in the field of emerging, potentially

Our dream:

APG is the natural choice to gain control of your financial future



PI – Pension Infrastructure

Fading borders	Communities	Technologies AI & Blockchain
Ecosystem / Techruption	Blue Zones	Stockbot, Vera, AI team, LUISA, IXO, Virtual Agents, Panoptes, Marcy, Swipe Quest, Dream catcher


PENSION INFRASTRUCTURE
Blockchain Strategy

Dutch Market figures

5.5 million active participants
9.6 million sleepers
3.2 million pensioners

App. 265 pensioen funds manage
1700 biljon euro pension assets

1 billon euro annual pension administration cost

App. 20 pensioen service providers

Estimated annual blockchain impact 300 million euro

Blockchain investments not yet clear
Current systems between 80 – 200 mln

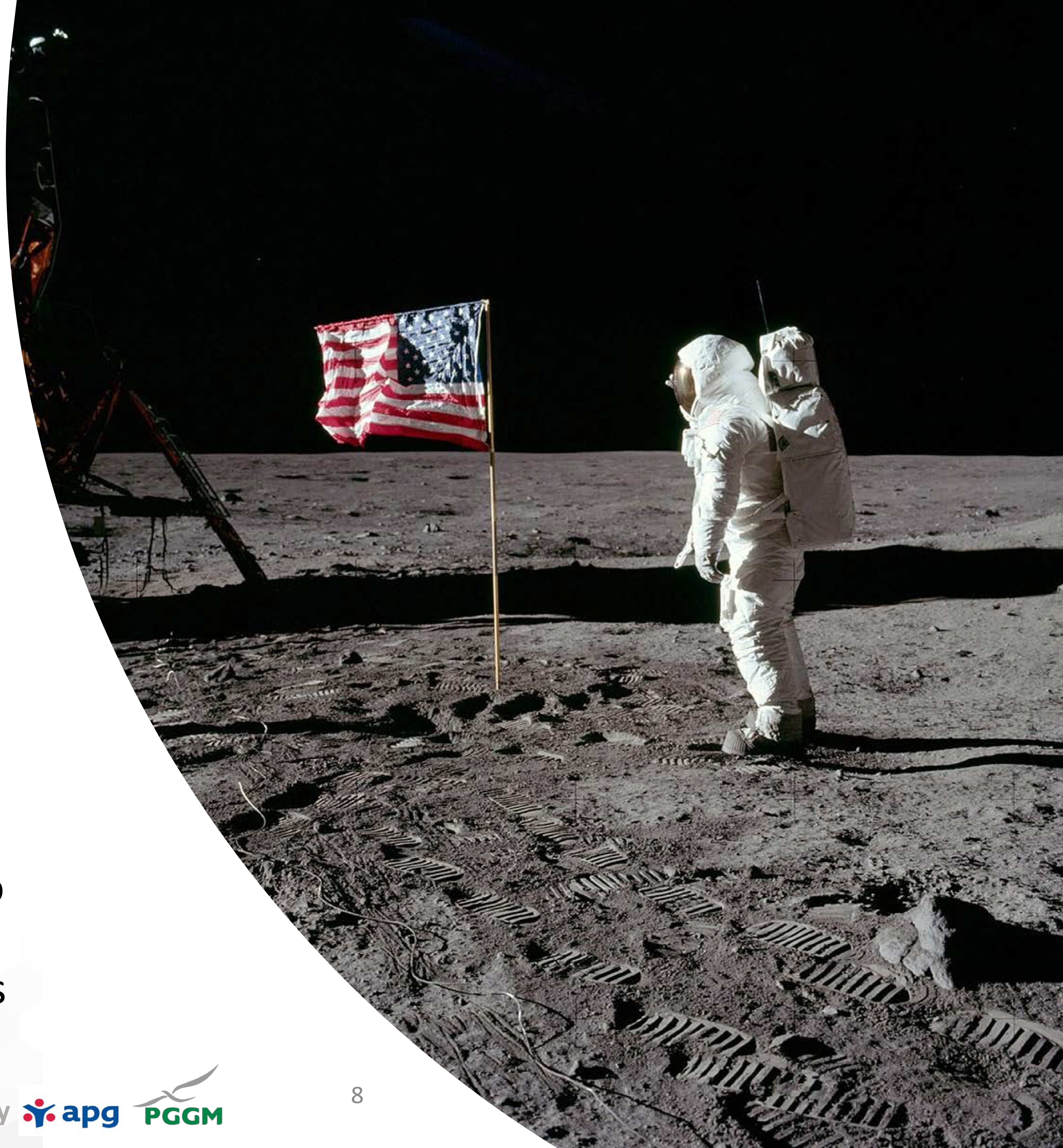
Our mission

Pension Infrastructure Moonshot

Why: we believe that every citizen should be able to obtain good pension services regardless of the type of job they do.

How: with an innovative and creative team we are able to **realize** the full potential of blockchain technology and create a pension ecosystem that benefits all.

What: we create and support a low-cost, flexible and reliable Pension Infrastructure so that pension service providers are able to deliver maximum value for the pension funds and their participants.



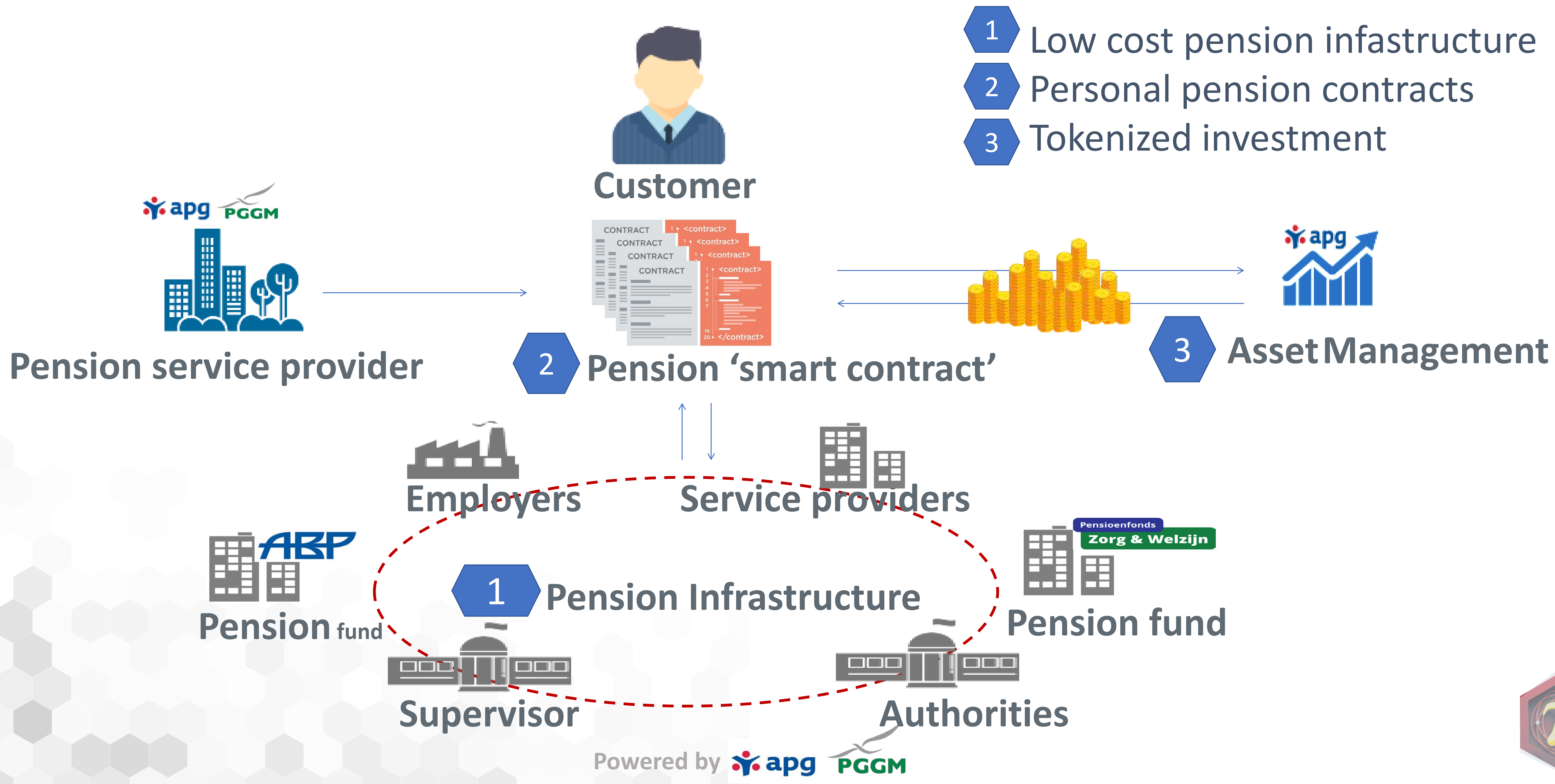
Blockchain explained

Blockchain provides the technology to transact value, information, business logic, governance, assets and costs in an efficient and secure way,
without the need for a central party

Blockchain enables collaboration, without losing autonomy

The future of pensions

Low cost infrastructure, smart personal pensions, tokenized investments



Blockchain opportunities

Blockchain promises for the pension sector

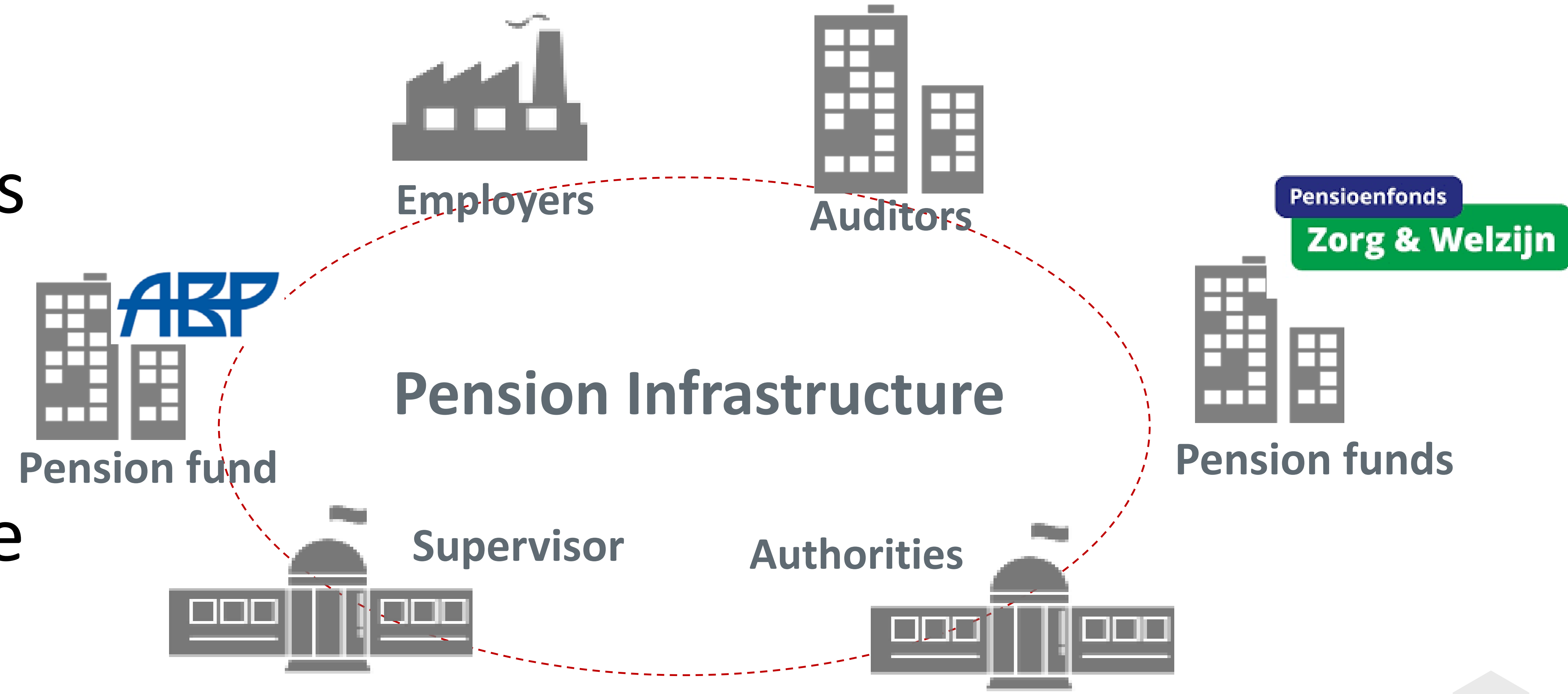
Decentralized, because no one single party has full ownership
No autonomy is lost by collaborating.

Integrity, because we can show who owns what and show transaction integrity to prefend fraud

Low cost, because we share infrastructure

Flexible, because all contract types can be executed

Safe, because of decentralized, fingerprinted and controllable ledger



Animation

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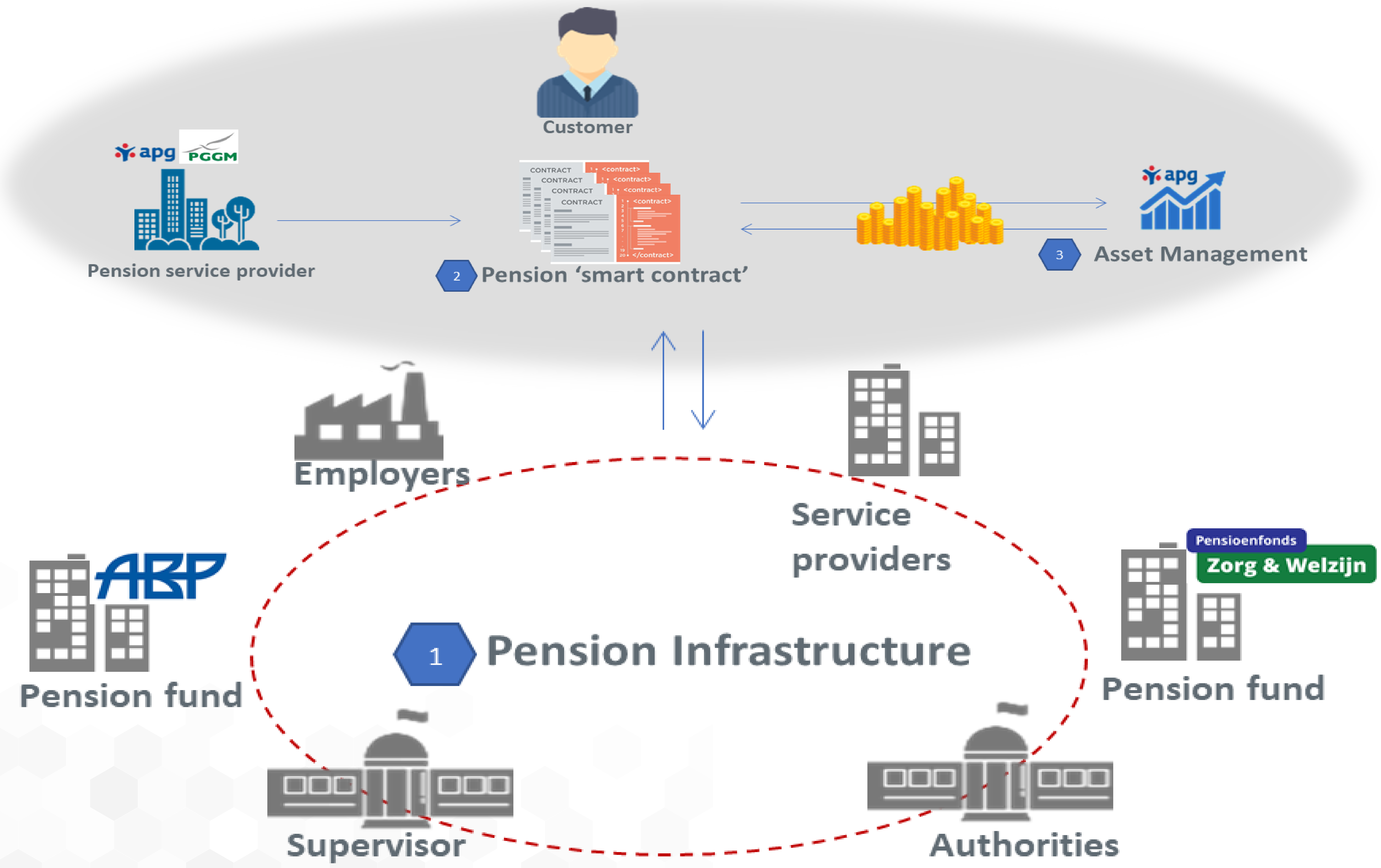
Multiple uncertainties in blockchain development

Technology maturity	Blockchain technology is new and immature. Scalability, interoperability and standardization are major challenges.
Governance & Legal	Current governance and legal frameworks don’t match with characteristics of blockchain technology.
Ecosystem	Ecosystem approach to create mutual value is a different paradigm.
Business model	Using blockchain technology impacts business models, operations and value streams.

The future of pensions

Beginning with the fundation, PI builds the Pension Infrastructure



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PI streams

Enterprise Showcase

Technology

- Enterprise platform
- PPF Showcase
- Maturity assessment
- Technology roadmap

60 % effort

Governance & Legal

- Ecosystem governance design
- Legal requirements ecosystem
- Legal & accountancy
- Legal requirements technology

15 % effort

Ecosystem

- Supervision
- Ecosystem analyze & strategy
- Risks & threats

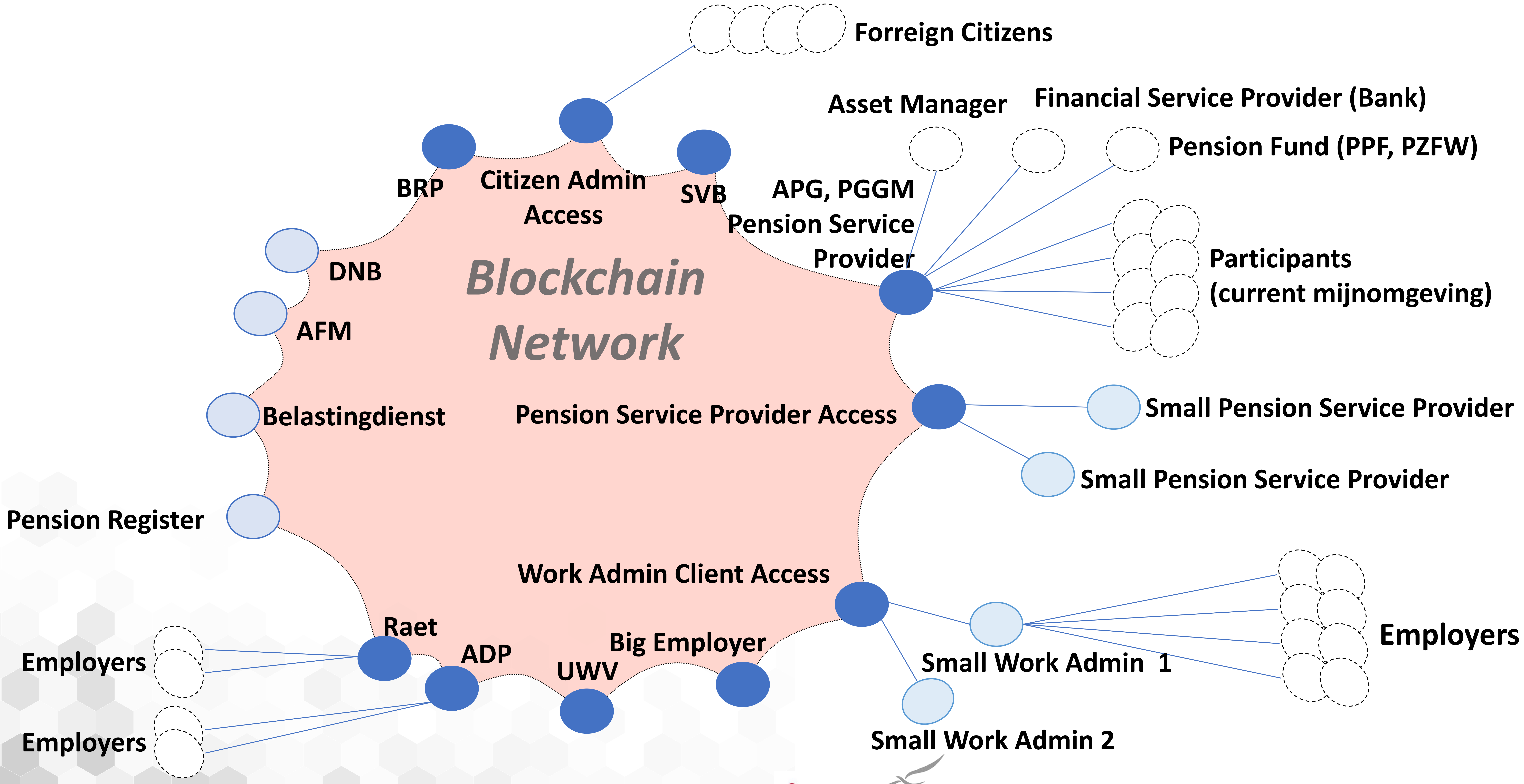
15 % effort

Business & Organization

- Mission & vision
- Strategy
- Business model
- Risks & Compliance
- Resource Planning
- Funding

10 % effort

Illustration of the Blockchain ecosystem to be



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NESTEGG

POSITIVE IMPACT

Invest in innovative infrastructure with others to accelerate a sustainable future.

DIRECT OWNERSHIP

Your ownership is registered in a public ledger, provable and viewable by anyone.

GARANTEED VALUE

Reduce your cost of living through the value produced by the infrastructure you own.

CHOICE

Manage a diverse portfolio of infrastructure projects and customize to your lifestyle and desired impact.

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