

Innovation in the Netherlands

*How do our large and
mid-sized organisations
innovate?*

January 2016





At PwC, our purpose is to build trust in society and solve important problems. We're a network of firms in 157 countries with more than 208,000 people. At PwC in the Netherlands over 4,400 people work together. We're committed to delivering quality in assurance, tax and advisory services. Tell us what matters to you and find out more by visiting us at www.pwc.nl.

PwC refers to the PwC network and/or one or more of its member firms, each of which is a separate legal entity. Please see www.pwc.com/structure for further details.



Contents

Organisations are expecting a small increase in innovation spending	4
Dutch appetite for globalisation of R&D is lower than for global respondents	7
Designing an innovation process that shortens the time to market is top of mind	7
Talents with excellent soft skills are key to be (come) successful in innovation	9
Collaboration on innovation with third parties becomes common	9
Regulation of innovation is a factor of dissatisfaction	10
Organisations that are regarded as most innovative are established businesses rather than newcomers	10
Methodology	11

Dutch organisations are widely regarded to be among the world's leading innovators, with strong technological capabilities and performance. Yet, their investments in R&D and knowledge-based capital are relatively lower when compared to organisations in other countries¹. In the Review of Innovation policy study the OECD concluded that it is important for Dutch organisations to seek for collaboration between business, educational institutions, and government, i.e. the 'triple helix'.

The global survey, conducted by PwC and Strategy&, focuses on the top 1000 public companies around the world, including eleven Dutch companies, that spend the most on R&D and innovation. The Dutch Innovation survey is a specification of the annual Global Innovation 1000 survey.

The main focus of the Dutch survey is on large and mid-sized organisations with respectively a revenue exceeding 100 million euros and less than 100 million euros. This resulted in a set of 111 responses from public and private organisations based in the Netherlands. Seventy percent are large organisations. The financial sector, public sector and technology & telecom account for almost 60% of our respondents. Among other things, the Dutch report discusses the view of the respondents on innovation spending, funding, required skills and offshoring of R&D.

We identify two types of strategies and two types of innovation drivers that characterise organisations:

First to Market versus Fast Follower describes two strategies of organisations. The first type includes organisations that focus on increasing their market share by getting the innovation (e.g. a new product, service, process or business model) to the market first while showing a willingness to accept a certain level of risk and failure in the process to achieve this. Fast Followers, on the other hand, avoid a high level of risk and keep clear of making the same mistakes as first-to-market organisations.

Moreover, Fast Followers try to generate revenue by trying to do things better than first-to-market organisations.

The role Technology plays in innovation marks two types of innovation drivers. An organisation can be either Technology Forward, which means they are technology-driven and focus on inside-out innovations that are driven by applying the results of R&D; or they can be focused on Market-Back innovations which are generated through close analysis of customer needs.

Organisations are expecting a small increase in innovation spending

Almost one-sixth of all respondents (16%) have a First to Market strategy, more than a quarter (28%) are Fast Followers and the majority have a mix of both strategies. Further, 7% of the respondents indicate that innovative ideas originate from technological developments, whereas over a third indicate that market and clients are the driving force of innovation, i.e. innovating market back (see figure 1).

The respondents in the financial services industry show a preference for Market Back innovation (see figure 2). Organisations in the technology and communication industry are traditionally focused on technology-driven innovation, but now show a mixed strategy is prevailing. The respondents in that sector no longer innovate from a technology push, but indicate that their innovation ideas are now also generated from the needs of their target

¹ OECD (2014), OECD Reviews of Innovation Policy

Figure 1 Innovation drivers (N=103)

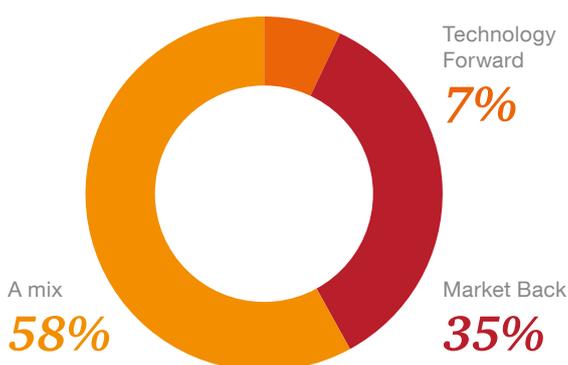


Figure 2 Innovation drivers by industry (N=60)

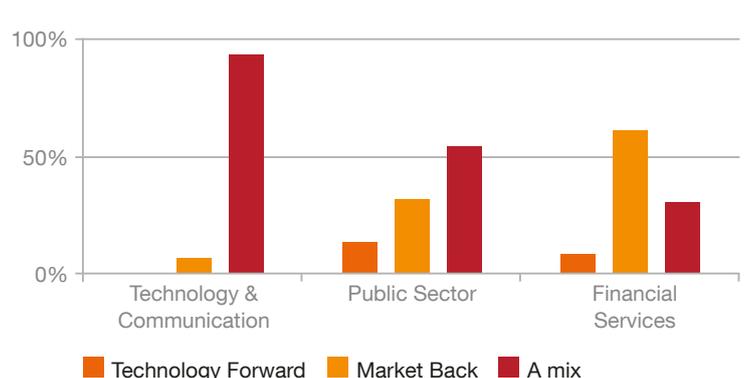
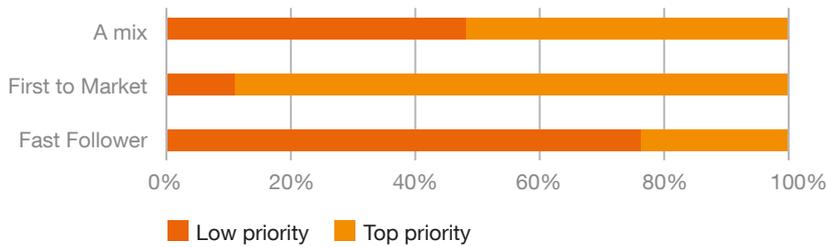


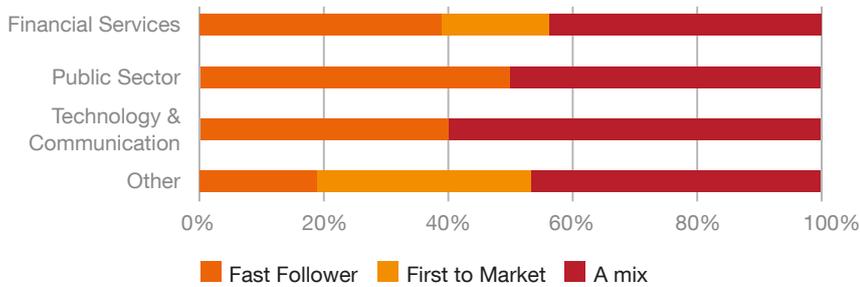
Figure 3 Innovation priority per innovation strategy (N=84)



customers. This is the general view across all sectors.

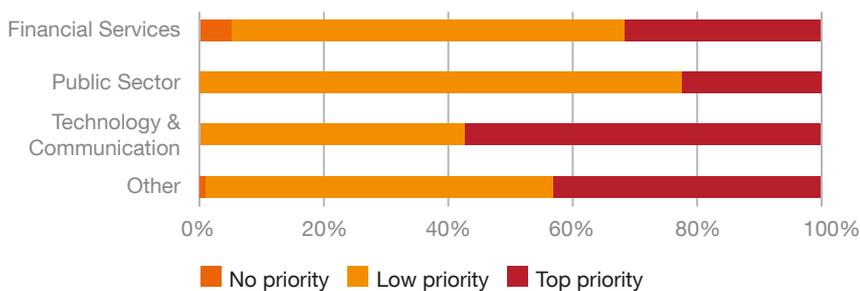
Our data do not show a relation between, on the one hand, the size of the organisation or the investment level and, on the other hand, the specific strategy a firm is pursuing. But for organisations that want to be First to Market, innovation has to be a top priority, which is the case for our respondents for example in the agriculture industry. However, a couple of organisations in the survey claim to have a First to Market strategy, but don't put a high priority on innovation (see figure 3). This indicates a misalignment between business strategy and innovation strategy.

Figure 4 Innovation strategy (N=86)



Most respondents with a Fast Follower strategy do not have innovation as their top priority. We see this, for example, in the public sector and financial sector (see figure 4 and figure 5). Even though innovation is a topic of conversation in these two sectors and quite some projects are initiated, both the respondents that are in charge of R&D and the ones that are not, agree that innovation has low priority in their industry.

Figure 5 Innovation priority per industry (N=72)

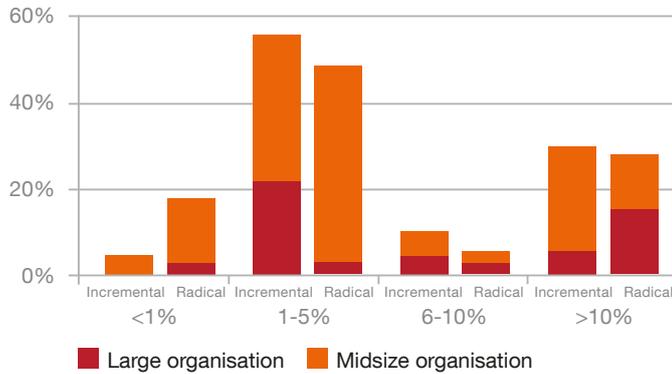


A few large multinational companies are responsible for a substantial share in total R&D spending. Eight of the largest private R&D investors (Philips, ASML, Shell, DSM, NXP, Unilever, Océ and AkzoNobel) account for more than one-third of total business expenditure on R&D in the Netherlands. Philips and ASML together represent 20% of the total². Most of these eight multinationals took part in the Global Innovation 1000 survey. This global survey shows a percentage increase in innovation spending by organisations compared to last year. However, the combined R&D budget of the eleven Dutch companies that spend the most on R&D shows a drop by 15%. This confirms the conclusions that were drawn by the Rathenau Instituut. This institute observed a trend that large Dutch technology-based multinational companies are spending a smaller share of their worldwide R&D budgets in the Netherlands. R&D statistics show that

‘This confirms the trend that large Dutch technology-based multinational companies are spending a smaller share of their world-wide R&D budgets in the Netherlands.’

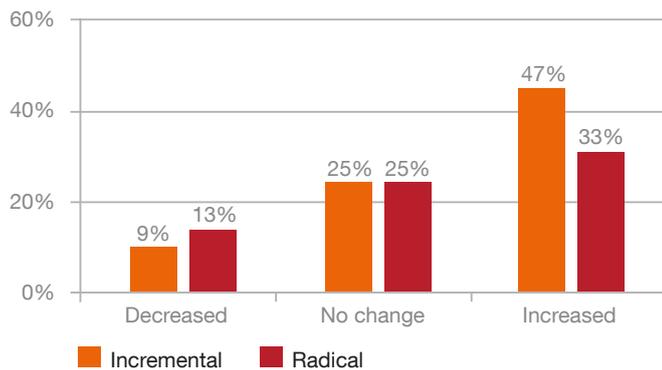
² Rathenau (2015) R&D goes global

Figure 6 Percentage of revenue spent on innovation (N= 43 for Incremental, N= 33 for Radical)



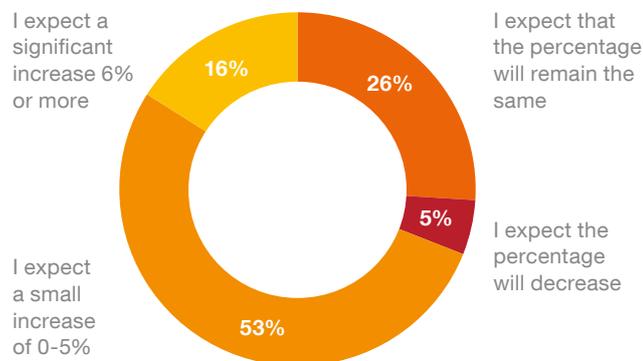
the share of R&D expenditures that firms in the Netherlands spent abroad increased from 10% in 1999 to 23% in 2013. However, this refers mainly to development functions while the research segment remained in the Netherlands. Development functions are moving abroad to be closer to their foreign markets, their partners in the supply chain and their manufacturing sites³.

Figure 7 Last year's innovation spending compared to previous year (N=88)

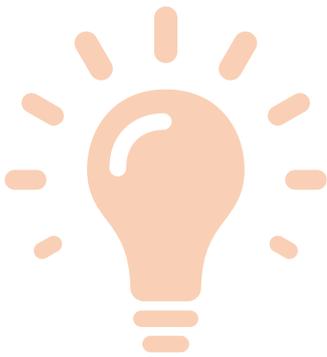


In the Dutch innovation survey, the amount of respondents spending on incremental innovation and radical innovation showed the same pattern; the majority spent between 1-5% on incremental innovation and second large group spent over 10% (see figure 6). Respondents from the technology & communication sector were well presented in this category. Over three quarter of organisations that spend more than 10% on incremental innovation are large organisations. For the organisations that spend more than 10% on radical innovation, 56% were midsize organisations. Firms that spent less than 1% on radical innovation were from various industries, such as healthcare, utilities & mining and professional services.

Figure 8 Expectation of innovation spent (N= 77)



As an outlook for next year, a majority of 53% expect a small increase in the innovation spending up to 5% (see figure 8). However, respondents of technology & communication are a bit more pessimistic; they learn us that over a third expect that the spending will remain the same. 16% expect that the spending on incremental innovation will show a significant increase in the coming three years.



Dutch appetite for globalisation of R&D is lower than for global respondents

Currently almost a third of the respondents (29%) have innovation functions that are located outside Europe. The global trend is to relocate innovation to a low cost country (LCC), such as Brazil, India, Thailand or Malaysia. Compared to the global view a larger portion of the Dutch respondents think it is best not to perform R&D functions in LCCs. 42% of the Dutch respondents think none of the activities mentioned in figure 9 are suited to relocate. A significant portion of these respondents can be found in the public sector and the technology & communication sector.

The percentage from the global survey that does not believe in relocation to LCCs is 24%.

Organisations in the Netherlands that have their innovation function outside the EU have the following top three challenges: 1) finding/retaining talent (50%); 2) focus on profitability (45%); 3) project management (42%). In the global report finding/retaining talent is also the top challenge, while the focus on profitability is perceived as the least challenging.

Designing an innovation process that shortens the time to market is top of mind

Multiple challenges regarding innovation have been identified. If those challenges are categorized in the 12 design elements⁴ that need to be in place in order to excel in innovation, the biggest challenge respondents are facing refer to the innovation process itself (see figure 10). Within the process challenges, a short time to market is one of the biggest challenges, together with having a structured process so that innovation takes place on a continuous basis, and to ensure a good selection process for ideas and concepts.

The second element that is a challenge is the innovation strategy. Examples are to find the right balance between focusing on innovation for the future vs. investment and risk and the short term goals, or the decision to which extent the innovation should be triggered by market pull and technology push. Challenges regarding funding is related to how to get the budget approved if ROI is not always the right measure for (radical) innovation and how to ensure people can spend time to work on innovation if that is not their core function. The fourth challenge, regarding business, relates to finding new business models and how to set clear goals.

⁴ Business strategy alignment with innovation strategy, innovation strategy, leadership, culture, talent, ecosystem, process, portfolio, governance, organisation, funding, metrics & motivators.

Figure 9 Activities suited to relocate to a low cost country (LCC) (N=80)

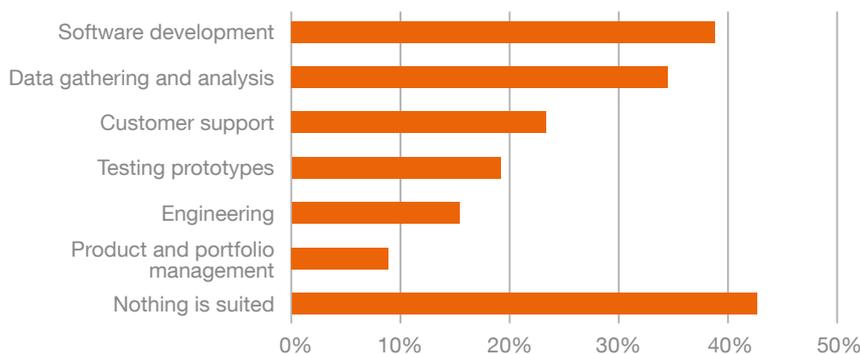


Figure 10 Top three challenges in innovation (N=85)

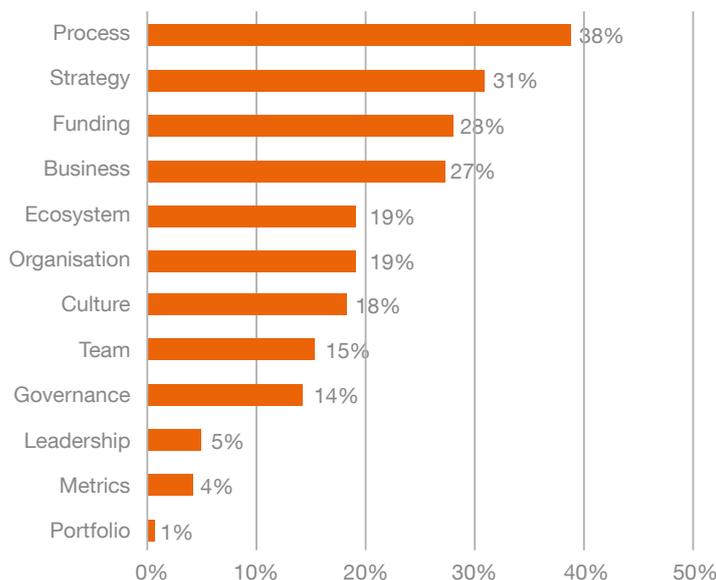
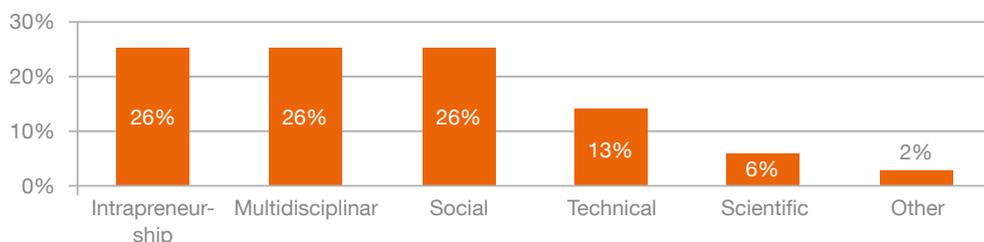




Figure 11 Talent in demand (N=70)



Talents with excellent soft skills are key to be(come) successful in innovation

Besides the challenges in innovation, there are also areas in which organisations in the Netherlands are doing well. Hardly any of the respondents experience difficulties in attracting talent in order to bring together innovation, competitiveness and growth. Only five respondents indicated that they struggle with this issue. On the other hand, organisations that have innovation activities located outside the EU, struggle to find/retain professional talent.

to ‘connect the dots’ and who possess excellent ‘soft skills’ to make social innovation happen (see figure 11). This means people with multidisciplinary skills and knowledge who can contribute to change management and who have the required intrapreneurial skills. For instance, Google’s approach to digital innovation is about bringing people together via collaboration tools, but also about its social effects. In fact, face-to-face interaction, the so-called coffee machine chats, is what Google considers to be the powerful part of innovation.

This is remarkable, given that the Dutch government focuses on stimulating technical skills and less on intrapreneurship. Only recently, the Dutch advisory body on educational matters, Platform Onderwijs 2032, recommended more emphasis on the development of soft skills in education.

Remarkably, the type of professionals they are looking for are not the specialists or technically skilled people, but people who have the skills

Three-quarters of the respondents attract professional talent from the Netherlands and Europe. Only in 10% of the cases they attract professionals from emerging markets, of which the respondents are large firms.

Collaboration on innovation with third parties becomes common

Open innovation in ecosystems and customer-centric innovation is a phenomenon that is becoming more and more common⁵. This can also be observed in the responses of the participants in the Dutch innovation survey. A whopping 84% of the respondents involve customers in their innovation efforts (see figure 12). Also, 46% of the respondents indicate that they collaborate with universities and universities of applied sciences (UAS). Especially organisations in the fields of technology & communication, agriculture/

5 WRR (2013) Naar een lerende economie

Figure 12 Collaborating with... (N=112)

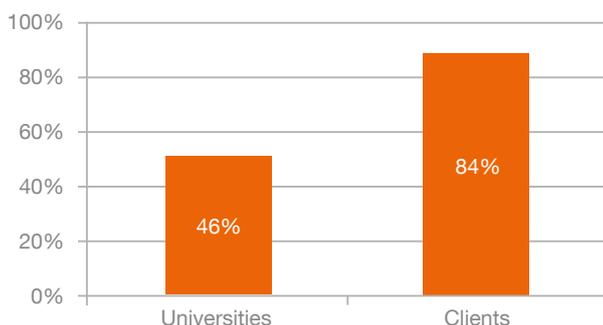


Table 1 Top 5 success factors to collaborate on innovation between business/government and educational institutions

Working closely and frequently together	1
Clear communication and trust	2
Same vision/shared interest	3
Complementary knowledge and skills	4
Funding/resources	5

‘As an outlook for next year, almost half (47%) of the organisations expect a small increase in the innovation spending up to 5%. However, the responses from technology firms learn us that over a third expect that the spending will remain the same.’

food, and in the public sector are collaborating closely. However, no collaboration activities have been identified among respondents in the financial sector. Still, two-thirds of the financial sector respondents indicated that they are interested in collaborating with universities and UAS in the future. The remaining one-third of respondents indicated not to be interested in collaboration with these parties.

Close and frequent cooperation are prerequisite for success in the collaboration between business/government with universities and UAS (see table 1). In connection with this, it is important to have an open and transparent communication between partners, so that they can start speaking the same language and stimulate the creation of trust. In this respect, having the same objectives and mutual interests make collaboration successful. In addition, complementary knowledge and skills to balance knowledge creation, applying that knowledge and having complementary funding & resources further contribute to a fruitful collaboration.

Regulation of innovation is a factor of dissatisfaction

Despite the initiatives the Dutch government has developed in recent years in order to stimulate innovation, the respondents in the survey still see a lot of room for improvement. They indicate that bureaucracy and a lack of policies hinder innovation. Respondents especially mentioned laws and regulations as a relevant issue. Some recurring remarks are:

- Slow decision-making by the government
- Over-regulation and rules that are too complex to comply with
- Law and regulation that is not thought through well enough especially regarding privacy
- Too difficult to access subsidy funds for innovation.

Organisations that are regarded as most innovative are established businesses rather than newcomers

The Dutch firms that are considered to be in the top three of most innovative organisations are the big names: Philips, ASML, and DSM (See table 2). These three companies have strong R&D departments that go back a long way. Interestingly, the gap between number one and four (Coolblue, Unilever, Shell) is significant.

Table 2 The top 5 most innovative organisations

Rank	Dutch response	Global response
1	ASML Philips (both 31 votes)	Apple
2		Google
3	DSM (20 votes)	Tesla
4	Coolblue Unilever Shell (all 6 votes)	Samsung
5		Amazon

When we compare this list of Dutch companies with the top five respondents in the Global Innovation 1000 Survey (Apple, Google, Tesla, Samsung, Amazon) there are some differences. In the global survey there are three firms that are founded after 1990, whereas the Dutch top five includes three firms that are founded more than a hundred years ago. The top five firms in the Global Innovation 1000 Survey all operate in the field of digital, whereas the

Dutch top five consists of companies that are originally not necessarily IT related (except for ASML). The transition to digital is one of the reasons why respondents find the Dutch established businesses innovative. These businesses proved to be able to adjust to the changing business environment and business needs while continuing to deliver added value. Another explanation for this difference is that Europe has always been strong in a different type of innovation than the US. Europe has always been more focused on innovation in agriculture, such as seed improvement and, more recently, nanotechnology and smart materials. In the US the start-up friendly environment has enabled digital firms to grow fast.

Methodology

Innovation is the cornerstone for economic prosperity and welfare for future generations. As the Global Innovation 1000 Survey demonstrated, innovation is a key driver of

organic growth for all companies, regardless of sector or geography. In cooperation with Strategy& we translated the Global Innovation 1000 Survey to get a comprehensive insight into the Dutch innovation landscape.

The survey has been sent to PwC's C-level clients and was further distributed with the help of social media. Twenty calculations have been performed using IBM SPSS Statistics© and a pilot version was tested among twenty-three respondents. PwC's Qualtrics survey software made it possible to collect data and reach the selected respondents. Participants were asked to answer a questionnaire which consists of a set of thirty-three questions that took them approximately twelve minutes to complete. A total of 111 respondents completed the survey that was launched between 3 September and 15 October. The "I don't know" and "Not applicable" answers are omitted from the sample size in the graphs.



Contacts

Suzanne Keijl - Innovation Partner

suzanne.keijl@nl.pwc.com

+31 88 792 35 17

Steven Pattheeuws - Director Strategy&

steven.pattheeuws@strategyand.nl.pwc.com

+31 88 792 29 36

Sonoko Takahashi - Senior Manager

sonoko.takahashi@nl.pwc.com

+31 88 792 34 78

Steven Schotanus - Innovation Manager

steven.schotanus@nl.pwc.com

+31 88 792 49 14



www.pwc.nl