How did scenario planning come about?

Ours is a very long-term business. It takes 40 or 50 years to prepare and deliver infrastructure like refineries and pipelines. We need to think about what’s going to happen in the future and what we should be doing now. The idea of scenario planning is to be able to envisage and prepare for the future. The first time it really came into its own was with the oil crisis in 1973. In the 60s and 70s a dramatic increase in car ownership caused oil consumption to shoot up. It was an extremely strong trend, but it wasn’t going to continue forever. We ran simulations to see what it would reach its limit and what would happen when it did. We didn’t predict the oil crisis itself. The future was always uncertain and isn’t something that can be predicted. But it was one possible scenario that we came up with regarding what might happen as a result of the escalating demand for oil.

How does it relate to management strategy?

Scenarios are one of the tools we use to create corporate strategy. For example, when Royal Dutch Shell is planning a large-scale investment, we check how that fits in with our scenarios. If we conclude that it’s a good investment, fine; otherwise we come up with an alternative. Scenarios are a kind of barometer for testing the soundness of a plan. 1972 saw the publication of a book called “The Limits to Growth” which predicted that oil supplies would dry up by the year 2000. This prediction proved to be wrong, but Royal Dutch Shell has been researching alternative fuels ever since. That research bore fruit in the shape of GTL (gas-to-liquid), which is a technology for producing diesel, jet fuel and chemicals from natural gas, which is more abundant than oil.

What scenarios are you currently working with?

In 2013 we announced two global scenarios: the ‘mountain scenario’ and the ‘ocean scenario’. We use these as guidelines to draw up individual local scenarios. The mountain scenario assumes a powerful state. At the top of the mountain you have the elite, including governments and big, economically powerful corporations. In this scenario, power flows from the top down. Generally speaking, the government exerts control at providing big infrastructure, urban planning, but on the other hand because the priority is the national interest, economic growth and energy prices are moderate. This scenario works with nation states like Japan, France and Germany.

In the ocean scenario, on the other hand, market economics plays a bigger role. It’s a world of competition where everyone is given equal opportunity, and ends up either a winner or a loser. There is no guarantee that even a big corporation like Shell will survive. The future is completely uncertain. But the strength of the model is that civil society can function on its own, without relying on central government. Power flows from the bottom up. Cities like Amsterdam and London, which have international connections and cultural and economic power, will probably flourish in this scenario.

What is the starting point for creating a scenario?

You start by observing trends. For example, the rising global population. Or the predicted long term growth of the economy. The increase of human knowledge, and the progress of technology. We can say that these are typical trends, and unavoidable. One particularly important trend at the moment is converting electricity to hydrogen and storing it as gas for later usage. This is a technology for producing diesel, jet fuel and chemicals from natural gas, which is more abundant than oil.

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furniture based on 3D drawings. A Japanese lady brought her daughter along. She told us she lived nearby and that her daughter loved science.

"Today we made stickies!"

The lab was strewn with product prototypes: a glance at the wall revealed an artificial leg. Apparently one research team is developing an artificial leg for use in Indonesia. Rather than metal, they are experimenting with materials that are easy to come by: locally, like bamboo and pineapple and banana fibres.

Waag Society also runs a public participation programme. There are six research programmes, including Creative Care Lab for innovation in health care, and Creative Learning Lab which develops programmes to teach children about technology. However, the programme which uses this building the most is Open Design Lab. Since Waag Society’s mission is to help out other labs with their projects, one belongs to one of the labs, but not necessarily theirs.

"These continuously upload data on housing, energy, and industrial design. Every one belongs to one of the labs, but it’s not unusual for them to be called on to help out other labs with their knowledge and skills, or for different labs to work together."

Since Waag Society’s mission is social innovation, projects extend beyond the walls of this building. It’s usual for universities, media partners, and experts, as well as the users who will directly benefit from the technology to be involved. Quite often members of the public will bring their own ideas along to open days. Once a year, external third parties are involved in reviewing the research agenda of the lab.

"We’ve set up start-ups with the aim of bringing the fruits of the labs’ research to market. Waag Society spins-off. One of them is Farphone, a social enterprise. As a foundation, we can’t be directly involved, so they’ve set themselves up as an independent company," says Director Karien Stikker.

20% of funding comes from the creative industries fund, the City of Amsterdam, and the Ministry of Culture. Another 50% comes from European programmes related to education and health care. The remainder is provided by corporations and other groups as joint research costs or as part of research agreements.

Despite this, Waag Society remains an independent foundation and is not affiliated to any university or to the government. All achievements are therefore available to the public domain and can be shared, the aim, naturally, of encouraging open innovation. Open research, open source... you name it, it’s open. Spin-offs can be created if necessary, but even these are required to be social enterprises. They may be market-driven, but they are not shareholder driven. You could say that what drives them is social contribution.

There’s a chance that more labs may be added in future, but only if they contribute to society at large. Says Stikker: "The question is whether it will impact the future of society. Then there’s the sense of playfulness and passion of the people proposing the project, and Waag Society’s own philosophy of releasing technology into the public domain. We’ll take on any project as long as it meets these criteria."

By giving people access to technology, Waag Society is boosting the creativity of individuals in the Netherlands.

Creative Care Lab
A lab for health care research, Creative Care Lab is currently working with an external company to design an interface for a wearable artificial pancreas developed for diabetes sufferers. Because of the need for biological science expertise, it also cooperates with an external biotech lab.

Creative Learning Lab
This educational research lab develops programmes that teach children about technology in new ways. Its main project at the moment is a collaboration with FabLab called "FabSchool." It’s an attempt to encourage children to use new technology in creative ways.

Future Heritage Lab
This lab researches how our heritage can be preserved, and how it can be used in the future. In recent years many museums have begun digitizing their archives, and recording paintings and sculptures as digital images. This lab is working towards making these archives publicly available.

Future Internet Lab
This internet lab for developing new programmes, apps, etc. works with the government to plan and run public participation programmes. It is currently researching ways of sharing and utilising big data from cities throughout Europe via an app.

Open Design Lab
Currently this open design lab is working on a project surrounding smart meters, which in recent years have started to look like they will be made compulsory in Europe. The lab attempts to build relationships between new technology and people.

Open Wetlab
This lab aims to create a sense of added value by fusing art and science. It is currently working in the field of bio-art design, and is also part of the international science community. It is involved in furthering discussion on the ethics of life.