

NESTLÉ S.A.

**2022 NESTLÉ INVESTORS SEMINAR BARCELONA, SPAIN
MEANINGFUL INNOVATION TO UNLOCK GROWTH**

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Speaker:

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Stefan Palzer, Chief Technology Officer, Nestlé S.A.:

Slide: Title Slide

Thank you very much, Mark. I will try to give the 100%, not the 80%. Indeed, the next 30 minutes, we will talk about meaningful innovation to boost growth. During the last five years, we took many measures to shorten time to market, to speed up our innovation process, but also to differentiate, stronger, our offering while keeping the R&D budget flat despite the growth of the company.

I do believe we can truly talk about a transformation of innovation at Nestlé. But, before we go more into the details of our measures, let us first have a look at the results we obtained so far.

Slide: Transformation of our innovation processes led to significant improvement in speed-to-market and product differentiation

When it comes to speed to market, we were able to shorten the time to market by 60% since 2016. We moved actually from an average project duration of 33 months to 12 months. And that is an average of different categories. In Food and Beverage, sometimes projects take us only six to nine months. We are faster now here than many of the start-ups which are out there. While in Nutrition, you can imagine timelines are still much longer due to the registration process. We are getting now really fast when it comes to innovation.

But we were also able to keep the number of launches and shop tests up. And we increased it by 12%, despite the pandemic, so we were able to execute our innovation pipelines. That required a lot of creativity of our teams and resilience to work around those hurdles, which are coming here with the pandemic.

Now, in terms of differentiation, we also were able to differentiate, stronger, our offering. Amongst the 30% of growth coming from products launched, the last three years, the share of innovation has increased. We still have 30% of our growth coming from products we launched in last three years, but the percentage of innovation in the 30% has increased to about 25%. That means we have a stronger differentiated offer in the market.

Lastly, we also intensified the technology development and related patenting. And you see here that in areas of strategic interest, we were able to increase patenting activities by 90%, during the last two to three years. So that is a significant improvement when it comes to speed-to-market, but also differentiation.

Slide: Our new approach to innovation is based on process simplification, an entrepreneurial culture and external collaborations

Now, in parallel, we also had to build new innovation capabilities. But, before we go there, let us have a look now also how we have achieved these improvements and then we talk a bit about new innovation capabilities. Well, the first step we took is that we simplified our innovation process. We moved from six approval gates to only three, and that already in 2018.

Then we installed 14 R&D accelerators. And in these accelerators, the motto is in only six months from idea to shop. So fairly short timelines, the team worked intensively on the product and then we test the innovation under real-life conditions in the retail or e-tail environment.

We also established 30 partnerships with retailers, and that was very important to test truly differentiated offerings under real-life conditions very rapidly in the marketplace.

Last but not least, often we are facing always the discussion, if you have an innovation, shall we invest in the factory? And sometimes, it takes also time to have this investment and to build the factory to build the lines. To bridge this time and to be quick in the market, we established 53 new pilot lines across the company. And that enables us to go quickly into the market, to produce and to have an earlier market entrance. These were probably the main measures which we took to accelerate time to market.

Now when it comes to differentiation, for instance, we established an internal shark tank for our employees, employees that can come with great ideas they can propose them. And then we fund those ideas, a bit like the Shark Tank from TV. And we have great examples. I have brought one with me to the stage. That was one employee who had the idea – well, who had the baby actually, and the baby was teething. And then if you have a baby, which is teething, typically you have plastic tools the baby is biting on, or you have biscuits and they are all falling on the floor. So there was no solution. And we said, 'Okay, I need something for my baby, which is natural, which is a food product, and the baby can chew on this product.'

It was actually an employee, even from our Pet food business. She proposed this idea. And we said, 'Well, yes, we fund this idea.' And now a couple of years later, we are building a factory. We even created a new category. This product does not exist in the market. And that shows also the power and the creativity of our employees. and we are able to leverage that via this shark tank.

Furthermore, we established 60 new collaborations with start-ups. Here we combined the creativity of the start-ups with our ability to scale innovation, and we have now first products from these collaborations going into the market.

AI-based concept generation. We have all those social media insights on social media activities in the world. And to leverage that or to create very innovative concepts, we established an artificial intelligence concept engine, which is transforming these insights into concept proposals, which are then evaluated by our employees, by our staff. Then one or the other, we do prototyping, and then we test it with consumers.

And then last but not least, I mentioned that already, the patenting activities and priority areas, a clear sign that we have created more differentiated technologies, which we bring it to the market and which will protect also as our IP.

Slide: Streamlining our R&D footprint allowed us to invest in new innovation capabilities while keeping budgets flat

Now in parallel, we also built new innovation capabilities. But this requires funding and like I said, we want to keep R&D budgets flat, so we had to streamline the R&D organization. Since 2015, actually, we closed one-third of our R&D sites. We consolidated fundamental research, and that created funds which we reinvested in new capabilities.

For instance, we funded the Institute of Packaging Science. And today, you will see already first deliverables of this institute. We funded the Institute of Agricultural Science and this institute we will inaugurate beginning of next year. And then we created also Dairy and Coffee farms, additional farms where we can test our agricultural solutions.

Mark talked about the importance to be close to our consumers, to innovate with our consumers, and to innovate for our consumers around the world. We always had innovation centers in ASEAN, in India, in Africa. We had also footprint in China. We reinforced this footprint in China by a new center. And then just three weeks ago, we inaugurated a new R&D Center in Latin America, which was a bit of white spot for us. And that in order to innovate closer to our consumers to ensure that the innovation is really relevant for the local consumer, and this also adapted to local supply chain conditions and local raw materials.

And then our 14 R&D accelerators, which are placed in nine markets. The last one was the R&D accelerator in the US, in Arlington, where we had our last Investor Seminar back in 2019. Now in this building, we have now also an accelerator.

Slide: Our newly developed Artificial Intelligence & Data Processing tools enable Scientific discoveries and help to manage complexity

Another area, which is very important for us, by going forward. You can imagine the world is getting very complex also for our product developers. If you develop in today's world,

something, a new innovation, well, it has to taste great, that is for sure. It has to be healthy, but it has to be also sustainable, and it has to be affordable, and quality and safety is non-negotiable.

Now, the equation is getting very, very complex. Now, in order to deal with this complexity, we need artificial intelligence tools. We need data science and machine learning. For instance, we developed a clinical data mining approach, which allows us to do new discoveries based on existing clinical studies. We valorized much more what we have already done in terms of clinical studies, and we used that to create new discoveries and new inventions.

Then the AI assisted-concept development, I talked already about that, but we have also now a module for recipe development. Under multiple constraints, we can now develop the most appropriate recipe. And then you see here also, we use AI also for classical plant breeding. For us, coffee and cocoa are absolutely key raw materials. Increasingly important are also pulses for all our plant-based offerings. And in order to do, here, the best breeding approaches to get to the most performing plant varieties, we use now also data science and machine learning.

But we also use increasingly in our artificial intelligence to increase efficiencies along the value chain. You see here on the bottom of the chart, a couple of examples, for instance, machine learning for advanced process control. Some of our lines, for instance, our KitKat lines, they are self-regulating, self-controlling, so there are feedback loops in those lines. They detect the product quality, they measure the attributes of the wafer, for instance, and then they regulate the process back. It is a self-controlling mechanism. But we have also developed, for instance, machine learning approaches for preventive maintenance. That allows us to reduce downtime of our lines.

Slide: While we continue to develop impactful technologies for our core business, we stepped-up innovation for high growth categories

Now, I would like to review with you progress versus our priorities and selected key developments in those priorities. We have five R&D priorities related to our core business and these priorities are well aligned with the rest of the company: Food Safety & Quality, Taste & Aroma, Nutrition & Health, Affordability and also Sustainability.

We also define four high-growth areas to focus on: Alternative Proteins, and that includes plant proteins, Coffee & Systems, Early-life & Medical Nutrition, including also the best nutrition for the ageing organism, and then Science-based Pet Nutrition.

Slide: Our new sugar reduction technology has little impact on test, is cost effective and also provided microbiome benefits

Let us now review selected discoveries in those areas and selected technologies which we developed. And I would like to focus on the areas here marked with the brown numbers.

The first area, Nutrition and Health. I want to introduce you to a breakthrough technology which we developed here for sugar reduction. It is based on a fermentative transformation of intrinsic sugars found in our raw materials, for instance, lactose in milk, maltose in malt, fructose in, for instance, fruit juice. And using fermentation, we transform those intrinsic sugars into prebiotic fibres. That reduces the sugar content of the products.

The technology is, first of all, allowing to reduce sugar content of the product by up to 50%, depends a bit on the recipe, of course; and to reduce calorie content of our products by 25%. But more importantly, it is also having very little impact on taste. We are able to maintain sweetness, so we do not need to add sweeteners here to the product. It is clean label, so we have no additives, no filler to be added. And last but not least, it is also cost neutral. Or sometimes you are facing a small cost impact, but it is absolutely manageable.

Now, we are already deploying this technology at large scale. Until the mid of next year, we will have 200,000 tonnes of product produced with this new technology. But there is more good news. The prebiotic fibres, and we did now some first clinical studies that have also very positive effect on the microbiome of the people consuming the product. You see a positive shift in the microbiome; for instance, you see more bifidobacteria emerging, more probiotics emerging in the microbiome of those people. We have a technology allowing us in a very cost-effective way to reduce sugar, but in the meantime, we get also health benefits, which is fantastic news for us as a company.

Slide: New proprietary ingredients allow us to develop very affordable products without compromise on nutrition and taste.

The second area I would like to deep dive into is the area of proprietary ingredients for affordable products. Affordability is first, as a company, one of the priorities and true, affordability requires technology. It requires new recipes. It also requires new ingredients.

So here are four great examples of very recent developments. For instance, we developed, here, porridges based on spent grains. If you do our Milo malt extract, then we have those spent grains, and they are very nutritious, high in fibre and many micronutrients. We were able to develop a technology to upcycle those spent grains and to create porridges out of this.

First of all, that is very good for the environment because you do not have waste, but it is also very good for affordability of those porridges because we can position them at 20% lower price points.

Second example are great-tasting blends for very affordable coffee beverages. Here you see product Nescafé Malty, which we launched already in South Africa, Nigeria, Kenya, India in 2021. And this product is also positioned at 20-30% lower price points.

Third example, often fortification is required for affordable nutrition, and it is not always very cost-effective. Sometimes it is also oxidising the product and interacting with the product. If you add iron to traditional milk powder, well, this milk powder might get rancid.

Our scientists, our researchers developed here a solution for fortification of milk powder. And the good news is this iron, which we are adding here to fortify, for instance, the milk powder in Pakistan, you see here the example of the Bunyad brand, is three times more bioavailable, and has a very long shelf life. This solution we are already launching this year into the market.

Two weeks ago, we announced also that we are launching a nutritious plant protein to partially replace egg and egg dishes in Latin America. You see that here, Huevo Más. That is a protein powder, very nutritious, which you can blend with eggs, and you can extend the volume of those eggs. You can create, for instance, omelette, tortillas, or scrambled eggs at much lower cost and still keeping great nutrition and great taste.

These are four examples how we enable truly affordable products via technology, via ingredients in our company.

Slide: New packaging materials and agricultural solutions help to improve the environmental footprint of our portfolio

Sustainability, that is the third area to support our base business. Sustainability is a company priority and to reach our related goals, we need new technologies. For instance, our packaging experts, they are reducing headspace of packaging. They are simplifying packaging materials to make them easier to recycle. But often that is not enough. We are also developing barrier papers, totally new generations of papers which are protecting the product very well, but which are still recyclable in the paper stream.

And we are working on a biodegradable bioplastics. Very often we combine paper with those bioplastics to come to the solution. For example, while doing so, we already replaced 5 billion straws globally, plastic straws with paper versions, a massive undertaking, and we completed that already two years ago.

Furthermore, we are executing, together with our colleagues from Operations, a very comprehensive programme to reduce greenhouse gas emissions of milk. That includes feed supplements, it includes all the measures to reduce soil emissions, but also manure management. We think that the combination out of different interventions will enable us to reduce greenhouse gas emissions by 30% to 50%.

Slide: We launched over 100 plant-based innovations in 2 years across brands, formats and geographies

Let us now review progress in some of the growth areas. The first one is plant-based innovations. We progressed very well when it comes to alternative proteins and plant-based innovations. Contrary to many companies out there, we do not restrict ourselves to only meat and dairy or fish alternatives. No, we use nutritious plant proteins to innovate across categories, brands, formats (including chilled, frozen but also ambient formats), and geographies.

You see here a number of examples: chilled meat, the schnitzel, which is now going into the market, seafood alternatives, ambient plant-based products, an egg replacement, a vegan KitKat, by the way, which is also available at the stands outside. I invite you to taste this product. But then also Coffee creamers, very good success for us, the Starbucks' plant-based coffee creamer also available outside. Then Ambient and Chilled Dairy, Baby food and Medical Nutrition. And the latest one you will get tonight for dinner. Yesterday we served already to you some plant-based appetizers, for instance, including our tuna alternative. Tonight, you will get plant-based shrimp alternatives, you will get calamari, you will get salmon and you will get vegan foie gras. And you are the first to taste this product. It is just getting ready for the Christmas season, and I promise you it tastes great. Let us see what you think.

During the last two years, we launched 100 innovations, which are plant-based and that allows us to still grow in this area, double-digit. You always see now this discussion in the public that plant-based is slowing down. Not for us. For us, it is still a very successful journey. And we are leveraging in those developments, our various expertises along the value chain. It stretches from agricultural science. Peas and beans have not been created by nature to do a milk alternative out of those ingredients. We are adapting now the raw materials to the product we want to make by classical breeding. Our agricultural science is the absolute key to get to the best product at the end.

Then we have analytical science, nutritional science, material science (these are the food technologies) culinary expertise. And you got yesterday evening, already a flavour of the

capabilities of our chefs. And then packaging science; sometimes these products need also a bit different packaging solution.

Slide: Together with start-ups we explore precision fermentation and cell cultures to close sensory gaps in plant-based foods

Now the next area will be Nutrition, but before we go there, maybe also a quick word because I often get the question, what do you do in cultured food and what are Nestlé's activities when it comes to precision fermentation? Well, it is not either/or. It is not plant-based versus cultured food. At the end, the combination out of both could be very promising. We are working here together with start-ups in the area of precision fermentation and cell-based meat and fish. And those ingredients, we will use to close any sensorial gaps, which we still might face in our plant-based development. And you see here, we have planned first shop tests and first pilot tests in the market, in the US mainly, but also in Israel, which are coming up in the next 12 months.

Slide: We continue to innovate along the coffee value chain for taste, aroma, efficiency and sustainability

Now, a word about Coffee, the exciting world of Coffee, and for us, as a company, a very important area. And later today, my colleague, David Rennie, will also present additional key innovations in the area of Coffee.

One key achievement is the development of a new high-performing coffee variety by classical breeding. This variety delivers a 50% higher yield and that means you can use less fertilizer. And less fertilizer means less greenhouse gas emissions because in green coffee production, the vast majority of greenhouse gas emissions is coming from the usage of fertilizers. With this coffee variety, we can reduce greenhouse gas emissions of green coffee by 30%.

But our scientists in the agricultural institute also developed drought and disease resistant varieties. You can imagine climate change is really a challenge for us and we are worried about supply with green coffee. These varieties will enable us to keep up supply, even if there is less rain, or even there is more diseases which are spreading. That is very important for us in the future to secure our supply with green coffee.

Our teams also continue to develop new roasting and brewing technologies to access new taste territories, but also to increase yield. You can taste some of the products again at the booth outside this room. And the yield is very important for many reasons, obviously, for affordability, but it is also important for sustainability. If we can brew a cup of coffee with less green coffee, well, it is a more sustainable cup, but it is very important for us to always keep a great taste and not to change the taste, but to make better usage out of the raw material.

Slide: Our new coffee system neo and compostable capsules for Nespresso deliver great coffee with reduced environmental footprint

Now, we keep innovating in Coffee systems. For instance, some years ago, our engineers developed the Nespresso Vertuo system. And you see this system also in the exhibition outside this room. In this system, the coffee capsule, and this is the capsule, is rotating at 6,000-7,000 revolutions per minute. That is three times the speed of an aeroplane propeller and the machine is still remaining on the table. It is not moving, and it is not very loud. You will see that.

Why this rotation? Well, with the rotation, we have a much more complex and complete extraction, a much more complete extraction of the coffee, meaning we have a richer and tastier long cup. But we are not stopping there. We also developed now additional systems for Nescafé Dolce Gusto; you see that here on the left hand of the current slide. It is a new coffee system, which works with a home-compostable paper pot. This system is protected by 38 patents. And due to the new packaging format, we are able to reduce the packaging amount by 70% and to lower the carbon emissions by 20%.

You will be able to taste this coffee. I think it is a fantastic cup. It is a great cup. And that was enabled by our scientists of the Packaging Institute and the technologists in the Systems Technology Center. They work together here, so it is one of the major contributions of our packaging scientists in the institute.

Right-hand side, you see another key development, which is a paper-based home-compostable capsule for Nespresso original. And the challenge was here to make this capsule retro-compatible with the large machine park which we have out there.

Now, it sounds very simple, a paper capsule, but inside this capsule, we have 15 bar pressure during extraction. 15 bar is three times the pressure in the tyres of your car. And to maintain this pressure and still have a capsule, which is composting, and which is degrading in a compost facility within six to 12 months, was really challenging. But at the end, and I feel very proud that our scientists and technologists that have achieved that, we made it and we will bring that to the market beginning of next year.

You see here also both inventions and both developments are protected by many patents, each one by roughly 40 patents. We have created quite a patent fortress in this area.

Slide: We continue to translate great discoveries in infant nutrition into impactful global launches

Now, let us talk about Nutrition for all stages of life. Early-life nutrition. Mark mentioned that we need to accelerate growth of our Infant Formula core business, and here are two discoveries and two developments which should enable that. First of all, our human milk oligosaccharides. We talked already about that during the Investor Seminar in Arlington back in 2019.

Human milk oligosaccharides are carbohydrates, which are found mainly in mother milk, but not in bovine milk. We brought the first-generation of those human milk oligosaccharides to the market and we launched in 50 markets. The sales represent already CHF1.3 billion, the business growing 15%, so very good success for us.

The second generation, we are now bringing to the market until the end of this year, we will have launched it in 20 markets. And that is a more complex blend of those human milk oligosaccharides, providing additional benefits related to immunity and microbiome.

On the right-hand side, you see additional discoveries, a complex lipid blend, functional lipids, which are accelerating myelination of the infant brain. That is a development process happening in the brain of an infant and it is very important for cognition, language motoric function, the cognitive abilities of the infant. We will launch this new blend in Hong Kong and China still this year. So, two very important developments in the area of Infant Nutrition.

Slide: Our research teams continue to discover novel nutritional solutions for healthy ageing

But also, very good progress when it comes to Nutrition for ageing people. You see here three examples, a bioactive blend to improve mobility in elderly humans. We launched it, for instance, in functional milk powder in China. In the middle, you see a functional blend here, a functional food for pets and for dogs to improve heart health in dogs. And on the right-hand side, you see here, bioactives to restore mitochondrial function. With age, the cells lose the ability to create energy. We found bioactives which are restoring this ability to create energy and we launched it under the Celltrient brand and the products are also available at the stand of Nestlé Health Science.

Slide: Nestlé's unique portfolio enables us to leverage synergies between clinical research for humans and pets

Now, by doing all those clinical studies, we are exploiting also synergies between the clinical studies performed for our pet food business and for our human business. You see here, for instance, an example, where we found that the ageing brain is losing its ability to create energy

out of glucose. We replace the glucose here, for instance, by some special lipid blends called MCTs. And this solution works for pets and for humans, so we launched it in form of a Purina diet, but we launched it also in form of a functional milk powder in China. And we have now a supplement for Nestlé Health Science based on this functional lipid blends.

And then we have other benefit areas where we exploit, again, those synergies between clinical research for pets and humans, for instance, gut and digestive health, glucose and pre-diabetic, mobility and muscle, and anxiety and stress. And we are the only company who can exploit those synergies because we have a pet food and we have also a human food business.

Slide: What's next?

So that brings me nearly to the end of my presentation. The question is, well, what is next? Well, as a company, we will continue to drive growth through differentiated product concepts and technologies. And we will continue to focus on accelerated translation of fundamental science into discoveries, into innovations, which we will leverage across multiple categories and brands.

Our R&D teams also continue to execute the comprehensive project portfolio to reduce recipe and production costs, and that will be later explained by my colleague Laurent Freixe in the frame of Project TASTY. We have a very important contribution here from our R&D colleagues to Project TASTY.

Going forward, our partnerships with retailers are key to test together highly differentiated product concepts. We will continue this journey. We will continue also the focus on technology and agricultural practices to improve sustainability of products and operations.

And lastly, we started also to incubate certain discoveries requiring specific capabilities externally. That is a new journey for us. Sometimes you have discoveries, you do not have in the company all the capabilities to scale and to bring that forward so now we also go increasingly externally to excavate some of our discoveries.

In conclusion, we have performed a general overhaul of our innovation engine. It works very well when it comes to speed-to-market and differentiation. While performing research and development, we exploit multiple synergies across categories and brands, which helps us to maximize impact.

I will now hand over to my colleagues, Bernaud Meunier and Aude Gandon, who will explain to you how we accelerate our data-driven digital transformation. And I thank you very much for your attention. Thank you very much.

END OF TRANSCRIPT