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DELIVERABLE

7.6

## Report on all the audiovisual vignettes from throughout the project

*GoNANO DELIVERABLE 7.6*



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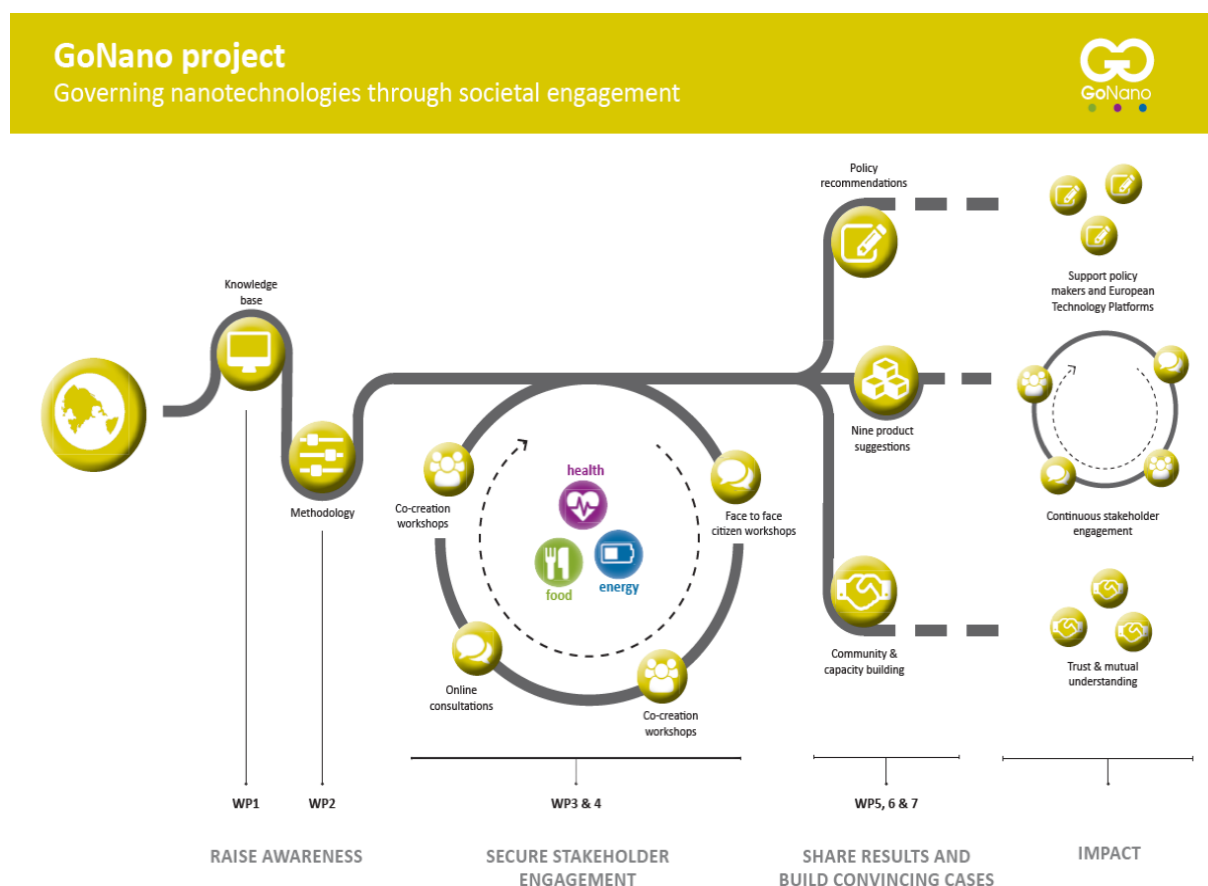
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# 1. INTRODUCTION

This report presents all the audiovisual vignettes produced during the course of the GoNano project. As part of the overall project communication effort in Work Package 7 (*Communication and dissemination*), the aim of task 7.4 (*Audiovisual vignettes and communication packages*) was to produce and disseminate audiovisual vignettes that captured and communicated the outcomes of the co-creation processes in GoNano.<sup>1</sup> The vignettes combine text, images, objects, and video, offering easily accessible, entertaining summaries of how to enhance the responsiveness of research and innovation in nanotechnology. They complement and support the education and training activities in WP6, policy outreach in WP5, and broader communication and dissemination purposes of WP7.

The aim was to inspire and inform stakeholders about the co-creation methodology developed by GoNano from the beginning and throughout the different phases of the project. The production schedule of the audiovisual material was aligned with the evolving communication objectives of the different phases of the GoNano project. Figure 1 represents these communication objectives in relation to the phases of the project.



**Figure 1 – Overall design of the GoNano project and communication objectives**

<sup>1</sup> See p. 32 of the Description of Action (DoA) of the GoNano project.

- In the initial stages of the project (WP1 & WP2), the main communication objective was to raise awareness;
- In the second stage of the project (WP3 & WP4), communication focused towards securing stakeholder engagement;
- In the final stages of the project (WP5, WP6 & WP7), the communication objective was to share results and build convincing cases with a view to creating maximum impact.<sup>2</sup>

The audiovisual vignettes have been developed with different audiences in mind. Some aim to educate and inspire research and innovation actors to engage society, while others have been developed to educate and inform broader audiences of the potential impacts of nanotechnologies and of opportunities to integrate societal considerations at early stages of research and innovation.

All the materials have been published on the dedicated GoNano YouTube-channel<sup>3</sup> and on the project website.

## 2. RESULTS

41 video clips have been produced over the course of the GoNano project, divided in seven categories:

1. General introduction to the GoNano project (1 video, available in 4 languages)
2. Best practices in co-creation (5 videos, available in English)
3. Future scenarios for nanotechnology applications (9 videos, available in English)
4. Video impressions of the GoNano workshops (9 videos, available in English)
5. Explanations on the process and outcomes of the GoNano project (5 videos, available in English)
6. Webinars (8 videos, available in English)
7. Overall project summary (1 video, available in English)
8. The GoNano Online Conference (3 videos, available in English)

All video clips were developed with partners, thus making them co-authors and co-owners of the material. The material has been used during various GoNano events and other dissemination activities. The following sections describe the reasons for each of these categories and their relation to the communication objectives, and provide brief summaries of the video clips produced as part of each of these categories. A more detailed description of each of the videos is available in Appendix A.

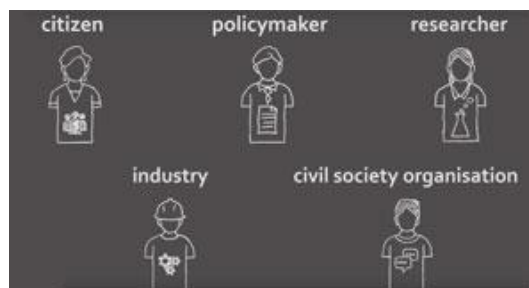
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<sup>2</sup> See also the [GoNano communication and branding plan \(D7.1\)](#) developed in the early stages of the project.

<sup>3</sup> See the [YouTube channel: GoNano-project](#)

## 2.1 GENERAL INTRODUCTION TO THE GONANO PROJECT

An introductory video clip was produced in the initial stages of the project with a general introduction on the GoNano project as a whole<sup>4</sup> to raise awareness among all stakeholders of the project. The original voice over is in English but the clip is also available in Czech, Spanish and Dutch for all pilot partners. The clip was originally promoted on the landing page of the GoNano website and later made available on the YouTube channel.



## 2.2 BEST PRACTICES IN CO-CREATION

A review of online materials in the initial stages of the project (WP1 & WP2) revealed a wide variety of material on the nature and purpose of nanotechnologies and on stakeholder engagement, co-creation and RRI. To position the GoNano project in this wider online context, collections of relevant video clips were created in dedicated playlists on the GoNano YouTube channel on:

- What is nanotechnology?
- Nanotechnologies: Health & innovation
- Nanotechnologies: Food & innovation
- Nanotechnologies: Energy & innovation

The playlists corresponded to the information on the GoNano project website and other social media channels such as Pinterest. Videoclips included information about co-creation, stakeholder engagement and RRI.

As part of this broader exploration, a series of brief video clips on best practices in co-creation was produced.<sup>5</sup> The videos (5 in total, each representing one of the main stakeholder groups in GoNano) feature interviews with the people behind noteworthy co-creation initiatives, including Elise Kissling of BASFs Creator Space frontend innovation programme (business), Francois Jegou on Vision Lines 20 (citizens), Frank Kresin on Making Sense EU (research), Markus Schmid on the Carbon Killer project (civil society) and Leonie Vestering on the *Flevotop* in the Netherlands (policy makers). The best practice interviews complemented the broader survey of best practices in WP1 *Turning lessons into*



*action* as a source of inspiration for the overall GoNano process design. The interviewees explain what their project was about, what the main results were, and what recommendations could be derived from it for other co-creation initiatives.

The video clips are available on the YouTube channel and the project website.

## 2.3 FUTURE SCENARIOS FOR NANOTECHNOLOGY APPLICATIONS

GoNano developed a series of nine future scenarios for nanotechnology applications in healthcare, food and energy, as an inspiration to visualize future nanotechnology applications and raise

<sup>4</sup> See the introductory video clip: [Nanotechnology for society – taking part in shaping the future](#).

<sup>5</sup> See the 5 interviews on [Best practices in co-creation](#) on the project website.

questions on acceptability, sustainability and desirability that come with it.<sup>6</sup> These future scenarios about *everyday life situations* illustrate how nanotechnologies might be used in the future.

The nine animation clips were produced as part of Task 3.1 and subsequently uploaded on Facebook and the GoNano YouTube channel to inspire the discussions during the citizen workshops and support the online consultation.

The future scenarios and discussion topics were also developed into a booklet<sup>7</sup> and a series of posters<sup>8</sup> as part of the 'tools for public engagement'.



## 2.4 VIDEO IMPRESSIONS OF THE GONANO WORKSHOPS

In the second phase of the project (WP3 & WP4) the focus of communication activities shifted from raising awareness of the project in general securing continued stakeholder engagement. The audiovisual material produced during this phase focused on the various project workshops involving citizens and stakeholders, aiming to capture the overall GoNano co-creation process itself.<sup>9</sup> The clips represent the process and outcomes of the co-creation events and highlight the main outcomes. Several participants reflect on their own experience of the workshop. The video clips provide an overview of the rich variety of ideas and diversity of the participants. The clips are available on the project website and the YouTube channel and serve to explain the overall process and to inspire other stakeholders who may wish to engage in co-creation.



In addition, consortium partners and members of the external advisory board were interviewed during a consortium meeting in Barcelona. In the interviews, the partners reflect on the first half of the project and share their expectations for the second part of the project.<sup>10</sup>

## 2.5 EXPLANATIONS ON THE PROCESS AND OUTCOMES OF THE GONANO PROJECT

Towards the final stages of the project (WP4, WP5 & WP7), the focus of communication shifted again, from securing stakeholder engagement to sharing the results and building convincing cases with a view to create maximum impact. In this stage, supporting audiovisual materials included a

<sup>6</sup> See this playlist with 9 [Future scenarios for nanotechnology applications](#) on the YouTube channel.

<sup>7</sup> See the booklet: [Developing scenarios of use for food, health and energy in 2030](#) on the project website.

<sup>8</sup> See the posters: [Future visions of nanotechnology and food, health and energy in 2030](#) on the project website.

<sup>9</sup> This playlist on the YouTube channel presents the [video clips on the GoNano workshops](#) (9 in total).

<sup>10</sup> See the [interviews with consortium partners and members of the Advisory Board](#) on the YouTube channel.

series of explanations about the main outcomes from the GoNano co-creation process.<sup>11</sup> The explanations were based on the main narratives resulting from the co-creation sessions in the different pilot countries.<sup>12</sup> Each narrative covers collaborations between citizens and stakeholders in the citizen and stakeholder workshops, but is told from a different perspective and derived from different pilot countries – energy in Spain, food in the Czech Republic and health in Netherlands. The narratives were distilled from deliverable 4.5 and converted into short, fun, personable scripts in collaboration with the pilot partners (RMIT, UT and TC CAS); resulting in the following 5 explanations:



1. *Identifying unforeseen implications for a sustainable energy future*, covering the topic of sustainable energy from a research perspective of (this explanation is based on the energy pilot study organised by RMIT in Spain).<sup>13</sup>
2. *Broadening the scope of food packaging*, covering the topic of food packaging from an industry perspective (this explanation is based on the food pilot study organised by TC CAS in the Czech Republic).<sup>14</sup>
3. *Setting targets for regulation and legislation*, covering the topic of food regulation from the perspective of a policy maker (this explanation is based on the food pilot study organised by TC CAS in the Czech Republic).<sup>15</sup>
4. *Bridging the gap between research and industry*, covering the topic of cancer research from a research perspective (this explanation is based on the health pilot study organised by UT in the Netherlands).<sup>16</sup>
5. *Improving autonomy and well-being for diabetes patients*, covering the topic of diabetes from a patient perspective (this explanation is based on the health pilot study organised by UT in the Netherlands).<sup>17</sup>

The aim was to creatively visualize - in an easy and accessible way - how co-creation with different stakeholders and citizens may lead to a more sustainable research and innovation practice, and what steps could be taken to establish that.

The illustrations were made by Tonke Koppelaar (a recently graduated illustrator from the Netherlands). The voice overs were recorded by different GoNano partners.

The clips are available on the YouTube channel to inform and inspire different target groups about the process and opportunities and challenges of working co-creatively. The explanations have also been used in the education activities in WP6 (including citizen engagement activities, the co-creation toolkit and the online conference), and in online communication and dissemination.

<sup>11</sup> This playlist on the YouTube channel presents the [Explanations on the process and outcomes of GoNano](#) (5 in total)

<sup>12</sup> Please see the [report on concrete product suggestions for future nanotechnologies \(D4.5\)](#) for a full overview of all product suggestions. See [the final report on the insights and lessons from the engagement activities \(D4.4\)](#) for further information about the lessons learned.

<sup>13</sup> [https://www.youtube.com/watch?v=qcwrm8b8zfM&list=PLI2-pUcVlb7OJWxCa5nuRY\\_GM8E4\\_aKmi&index=4](https://www.youtube.com/watch?v=qcwrm8b8zfM&list=PLI2-pUcVlb7OJWxCa5nuRY_GM8E4_aKmi&index=4)

<sup>14</sup> [https://www.youtube.com/watch?v=JzG-q-aKTsw&list=PLI2-pUcVlb7OJWxCa5nuRY\\_GM8E4\\_aKmi&index=2](https://www.youtube.com/watch?v=JzG-q-aKTsw&list=PLI2-pUcVlb7OJWxCa5nuRY_GM8E4_aKmi&index=2)

<sup>15</sup> [https://www.youtube.com/watch?v=LIHOCsCrhH4&list=PLI2-pUcVlb7OJWxCa5nuRY\\_GM8E4\\_aKmi&index=3](https://www.youtube.com/watch?v=LIHOCsCrhH4&list=PLI2-pUcVlb7OJWxCa5nuRY_GM8E4_aKmi&index=3)

<sup>16</sup> [https://www.youtube.com/watch?v=cCoAtsVhOAE&list=PLI2-pUcVlb7OJWxCa5nuRY\\_GM8E4\\_aKmi&index=5](https://www.youtube.com/watch?v=cCoAtsVhOAE&list=PLI2-pUcVlb7OJWxCa5nuRY_GM8E4_aKmi&index=5)

<sup>17</sup> [https://www.youtube.com/watch?v=fpx6DOwe2-Q&list=PLI2-pUcVlb7OJWxCa5nuRY\\_GM8E4\\_aKmi&index=2&t=0s](https://www.youtube.com/watch?v=fpx6DOwe2-Q&list=PLI2-pUcVlb7OJWxCa5nuRY_GM8E4_aKmi&index=2&t=0s)

## 2.6 WEBINARS

A webinar series: ‘How can co-creation be used to enhance research and innovation?’ was developed as part of the training and capacity building activities in WP6.<sup>18</sup> Each webinar consists of a video clip of about 45 minutes (divided into three 15-min sessions), providing insights into different aspects of co-creation. The first webinar focuses on co-creation and the rationale for applying co-creation in research and innovation? The second webinar is about co-creation in practice. The third webinar is about the outcomes and lessons of co-creation. The clips are available both on the project website and on the YouTube channel to educate and inspire researchers and engineers on RRI and co-creation in the field of nanotechnologies.



## 2.7 OVERALL PROJECT SUMMARY

A brief summary of the entire project has been produced at the end of the project. This video clip shows the activities and main outcomes of the project in 90 seconds. The clip has been produced and distributed to facilitate easy and widespread communication dissemination.



## 2.8 THE GONANO ONLINE CONFERENCE

The three online conference days was lived streamed on the GoNano Project’s YouTube channel. Over the three conference days the GoNano Project and experiences with the co-creation process was presented and discussed – including co-creation tools, reflections on gender and diversity as well as policy recommendations. The programme was moreover filled with excellent speakers and insightful discussions on societal engagement, Horizon2020 moving towards HorizonEurope.



<sup>18</sup> The [webinar series](#) is reproduced on the project website

### 3. IMPACT

Figure 2 below presents the number of views for each videoclip on Youtube. All 41 video clips have been viewed 3213 times in total since the start of the project in 2017 to the date of publishing of this report. In addition, Facebook and Twitter have reached 972 views. The number of views is still growing and is expected to increase further during the communication and dissemination activities in the final phases of the project.

In response to remarks on the limited number of views on the YouTube channel during the mid-term review, additional effort was made to increase the number of visitors. The combination of using the video clips during the co-creation workshops, in tools and materials produces, and for communication and dissemination efforts led to an increase in the number of views by 140%, from 1,000 to 2,400 views. The integration with other GoNano social media platforms such as Twitter, Facebook and LinkedIn further increased the number of views. In line with the objectives set out in the communication plan for the final year of the GoNano project, more energy was put into reaching out to a broader network through our partners and strengthening links with other (EU-)projects (for example, RRI-tools, Careables, COMPASS and SeeingNano) to communicate the GoNano co-creation approach and project outcomes, and to promote and stimulate the re-usage of additional interesting and valuable material. In an article on the NanoWerk website, the GoNano YouTube channel will be clearly highlighted.

Linkages between GoNano project outcomes and communication and dissemination efforts by all partners have also been improved. Partners received support with designing and carrying out communication and dissemination activities.

**Figure 2 – Total views of the audiovisual materials on YouTube (retrieved on 22 September 2020, conference videos retrieved on 17 November 2020)**

<b>introduction clip</b>		
English	400	
Dutch	22	
Czech	35	
Spanish	22	
		<b>479</b>
<b>Best Practices</b>		
Frank Kresin	268	
Francois Jegou	138	
Markus Schmid	127	
Leonie Vestering	60	
Elise Kissling	298	
		<b>891</b>
<b>Workshops</b>		
Dutch citizens	89	
Spain citizens	150	
Czech citizens	135	
Spain stakeholders	86	
Czech stakeholders	47	
Netherlands stakeholders	8	
Participant Burcu	149	
Netherlands stakeholders	111	
Interviews with partners halfway the project	79	
		<b>854</b>
<b>Visions of the future</b>		
A malfunction in the system - Energy	21	
Self powered mobile - Energy	16	
Doing the laundry - Energy	22	
Monitoring health - Health	27	
Doctor at home - Health	8	
Smelling disease - Health	7	
Dreaming the carrot cake - Food	37	
Pizza for two - Food	21	
Future party tricks - Food	19	
		<b>178</b>
<b>Co-creation approach</b>		
Bridging the gap between research and industry - Health	35	
Improving autonomy and well-being for diabetes patients - Health	69	
identifying unforeseen implications for a sustainable energy future- Energy	40	
Setting targets fro regulation and legislation - Food	19	
Broadening the scope of food packaging - Food	37	
		<b>200</b>
<b>Webinars</b>		
1-1 What is co-creation?	42	
1-2 Why co-creation in research and innovation?	15	
1-3 Who are the stakeholders for a co-creation project?	18	
2-1 The GoNano methodology for co-creation	26	
2.2 Planning your co-creation process: part 1	37	
2-3 Planning your co-creation process: part 2	9	
3-1 Outcomes and results of co-creation	16	
3-2 Recommendations for policy to support RRI practices	21	
		<b>184</b>
<b>The GoNano Online Conference</b>		
Day 1 - Strengthening inclusive co-creation moving towards HorizonEurope	266	
Day 2 - How to co-create – experiences and tools	33	
Day 3 - Practicing societal engagement in research and innovation	128	
		<b>427</b>
		<b>3213</b>

**Figure 3 – Total views of the audiovisual materials on Facebook and Twitter (retrieved on 8 September 2020)**

	Facebook	Twitter
Vision of the future – Monitoring health	162	118
Vision of the future – Doing the laundry	43	124
Vision of the - Dreaming of carrot cake	68	122
Citizens workshop in Barcelona SP	62	
Stakeholder workshop in Twente NL	64	56
Stakeholder workshop on energy in Barcelona SP	49	
Stakeholder workshop on nanotechnology in food in Prague Czech Republic	57	47
	505	467

## APPENDIX A – LIST OF ALL AUDIOVISUAL VIGNETTES

Please click on the links in the headers to access the video materials on the project website and/or the GoNano YouTube channel.

### 1. GENERAL INTRODUCTION TO THE GO NANO PROJECT



This introduction video introduces the GoNano project to all target groups. The clip was promoted on the landing page of the GoNano website. The introduction clip has been translated to facilitate accessibility for Czech, Spanish and Dutch citizens and stakeholders.

### 2. BEST PRACTICES IN CO-CREATION

GoNano has explored best practices in co-creation as input to the overall GoNano process design. We have interviewed innovators behind five noteworthy initiatives who explain what their project was about, what the main results were, and what recommendations may be derived from it for organising co-creation. The interviews complement a broader survey of best practices by way of a literature survey and in-depth interviews with co-creation practitioners and researchers across Europe.

#### 2.1 ELISE KISSLING – CREATOR SPACE



This co-creation project comes from industry: Elise Kissling, Director of the Creator Space frontend innovation program at BASF, reports on Creator Space, a co-creation project aiming to foster open innovation within the company. It brings together stakeholders with varying experience from within and outside of the company to develop concrete, challenge-based business outcomes. Originally developed as a one-time initiative to celebrate the 150th anniversary of BASF, the Creator Space now forms an integral part of the company's approach to innovation.

#### 2.2 LEONIE VESTERING – FLEVOTOP



This example of co-creation comes from the world of policy making: Leonie Vestering, member of the Provincial Council of Flevoland in The Netherlands and co-organiser of the first Flevotop, reports on the Flevotop, the first provincial civic summit in the Netherlands. The Flevotop aimed to foster closer collaboration between policy makers of the province and the residents of Flevoland. The residents of Flevoland were invited to share their views on societal challenges such as sustainable energy, circular economy, regional development and sustainable agriculture.

### **2.3 FRANK KRESIN – MAKING SENSE EU**



This example comes from a research institute: Frank Kresin, Managing Director of the Design Lab at the University of Twente, introduces the Science2Design4Society methodology and highlights the EU project Making Sense EU, a two-year project which helped citizens to use academic technologies to make sense of their own environments. Using low-cost, open source technologies, Making Sense EU empowered citizens to discuss methodologies, devise data collection strategies for measuring air pollution, water quality or sound pollution, and interpret the results. It's a win-win project: scientists can use the datasets for their research, and citizens acquire tools to understand their environment and take appropriate action. The Making Sense team have recently published the Citizen Sensing toolkit, a blueprint to facilitate community-driven data collection.

### **2.4 FRANCOIS JEGOU – VISION LINES 20**



This example comprises two projects on citizen engagement. François Jégou, Director of Strategic Design Scenarios (SDS) reports on the EU project NANOPLAT and the Vision Lines 20 project. The NANOPLAT project aimed to empower citizens to participate in the debate on the future of nanotechnologies on an equal footing with scientists. Taking a design-perspective, concrete visualisations of nanotechnology products were used as boundary objects between 'lay' and scientific expertise. Vision Lines 20 was a visualisation of 20 ideas of future applications of nanotechnology, picked up from popular science magazines. The project developed scenarios based on these future applications, aiming to foster a social conversation about the future of nanotechnologies, and to draw lines between dreams and reality, fear and hope, between "Wonderworld and Apocaliptica". The project asked 20 users to provide their assessment of these future applications based on desirability and 20 nanotech scientists to assess feasibility, leading to different scenarios for future applications.

<https://www.strategicdesignscenarios.net/>

### **2.5 MARKUS SCHMID - CARBONKILLER**



This best practice comes from civil society: Markus Schmid, campaign leader for WISE (World Information Service on Energy, an environmental organisation in Amsterdam working in the field of energy), reports on the CarbonKiller project. CarbonKiller enables citizens to buy emission rights in the European Emission Trading Scheme (ETS), a CO2 trading system of the European Union designed to lower carbon emissions and destroy them. The idea is to speed up the reduction of the total number of CO2 emission rights in the system. CarbonKiller aims to 'buy out the bubble' – it's about taking the air out of the system. <https://www.carbonkiller.org/nl>

### **3. FUTURE SCENARIOS FOR NANOTECHNOLOGY APPLICATIONS**

GoNano developed a series of nine future scenarios for nanotechnology applications in healthcare, food and energy production as an example to help visualize future nanotechnology applications and raise questions on acceptability, sustainability and desirability that come with it. These future scenarios are about everyday life situations to illustrate how nanotechnologies might be used in the future.

They were produced for the citizen workshops in print and turned into video clips for the online consultation.

#### ***3.1 FUTURE SCENARIOS ON NANOTECHNOLOGY AND HEALTH***

##### **3.1.1 Smelling disease**



##### **3.1.2 Doctor at home**



##### **3.1.3 Monitoring health**



#### ***3.2 FUTURE SCENARIOS ON NANOTECHNOLOGY AND FOOD***

##### **3.2.1 Dreaming of carrot cake**



##### **3.2.2 Pizza for two**



##### **3.2.3 Future Party tricks**



### **3.3 FUTURE SCENARIOS ON NANOTECHNOLOGY AND ENERGY**

#### **3.3.1 A malfunction in the system**



#### **3.3.2 Doing the laundry**



#### **3.3.3 Self-powered mobile**



## 4. VIDEO IMPRESSIONS OF THE GO<sub>N</sub>ANO WORKSHOPS

### 4.1 Dutch citizen workshop about the future of nanotechnologies in health (UT, NL)



### 4.2 Czech citizens workshop on nanotechnology and food (TC CAS, CZ)



### 4.3 Spanish citizen workshop about the future of nanotechnologies in health (RMIT, ES)



### 4.4 First stakeholder workshop on nanotechnology and health at UT (NL)



### 4.5 Second stakeholder workshop on nanotechnology and health at UT (NL)



### 4.6 Burcu Gümüşcü, developing quantitative single-cell analysis tools



### 4.7 Stakeholder workshops on nanotechnology and health at RMIT (ES)



#### [4.8 Stakeholder workshops on nanotechnology and health at TC CAS \(CZ\)](#)



#### [4.9 Interviews with GoNano partners and members of the External Advisory Board](#)



## 5. EXPLANATIONS ON THE PROCESS AND OUTCOMES OF THE GoNANO PROJECT

### 5.1 Identifying unforeseen implications for a sustainable energy future



*Transcription:*

Hi, I am Lucy, citizen, nature lover and researcher. Beyond my passion for research, physics in particular, I want to make a positive contribution to a more sustainable world for ourselves and our future generations. This is why I research photovoltaic solutions for capturing and using solar energy. The GoNano approach intrigued me, so I accepted the invitation to participate in a co-creation workshop in Barcelona. We discussed several ideas on future energy technologies, as well as the societal needs and values that had been derived from a previous workshop involving citizens. During our own co-creation workshop, we explored these concepts in relation to our own research fields and experiences. Our group focussed on the central value of “creating a better quality of life” and research lines around “smart materials and devices that save energy around the home”. At a follow-up workshop, we were introduced to the Harvestore project and a few of its members. The Harvestore researchers had already identified many benefits that their energy saving technology could bring. For example: more autonomy can reduce the need for physical monitoring and maintenance of power sources. And, using more accessible and abundant materials can reduce cost and make products more sustainable. During the workshop discussions, new insights and opinions were shared about the societal and ethical considerations of data ownership and data privacy in the area of The Internet of Things. We also identified some new potential areas for device application, which could help increase the scope of the Harvestore project. Participating in these workshops has helped me see the benefits to including wider audiences in research and innovation. Working together can identify unforeseen implications and lead to fruitful discussions and ideas that help bring better products to the market and society.

### 5.2 Broadening the scope of food packaging



*Transcription:*

Hello, I am Alice, I am citizen, I love cooking and ...I am Manager of a food company In my work I am responsible for the development of sustainable food packaging. Our company's philosophy is to make our business profitable while being sustainable and environmentally friendly. For my work, I follow new trends and technologies in the field of food innovation. That's why I participated in the GoNano co-creation workshops in Prague, where we discussed the future use of nanotechnologies in food applications with other stakeholders: researchers, state authorities, civil society organisations and businesses. We discussed the ideas of the citizens: needs for fresh and long-lasting foods, protection of food, increasing the shelf life, and minimization of the waste. We prioritized citizens' ideas and needs and tried to understand the differences and contradictions between them. We worked on the idea of a smart food packaging system that would be able to preserve vegetables and meat products. The second step was to reduce the environmental pollution of new plastic packaging for all products. We made a distinction between perishable and non-perishable foods. We selected the perishables

that require a new approach. We proposed a two-layered antimicrobial packaging solution, that would ensure the freshness and safety of the enclosed meat or vegetable. The final packaging would be cost effective, provide new useful properties, and at the same time ensure that its disposal would be less harmful to the environment than current packaging systems. I have learned that my work is one of the ingredients in a recipe for the life cycle of the packaging system. In order to facilitate this broader scope, we must involve citizens and other actors; from civil society.

### 5.3 Setting targets for regulation and legislation



*Transcription:*

Hello, I am Martin, I'm a senior policy maker and as a hobby I like to play music. In my work I try to unite different views on food developments. To better understand co-creation processes and how to involve all stakeholders, I participated in the GoNano workshops in Prague with researchers, companies, civil society

organisations and citizens. We started by exploring ideas, societal needs and values from a previous workshop with citizens. They came up with new ideas around future food technologies: how to avoid harmful effects and food safety, increase the shelf-life of delicate products, and use sensors to monitor food quality. In our group we selected the theme: safe nanotechnologies and safe applications. During the workshop we discussed the health risks of nanotechnologies in food. There are possible negative aspects of a long-term diet with artificial food products. During the second workshop, we formulated boundaries for future novel foods, and how we can improve our collaboration with companies and other actors to ensure that all necessary safety requirements are met. We formulated the need to create a definition for nanoparticles in food. With such a definition, food producers must explicitly state whether the food product to be produced contains engineered nanoparticles. Next, we ensured that companies work with national authorities before the product gets to the customers; that companies comply with Safe-by-design recommendations. We agreed that novel foods are still an area that requires special attention. Given the safety aspects, we agreed that nanotechnologies in food should only be applied where necessary. After these workshops I was confirmed about the importance of my work in controlling mechanisms, legislation and regulation. In the future, I want to increase the collaboration with companies in order to tune the products to the wishes and needs of customers. The first steps have been taken to continue this fruitful interplay.

### 5.4 Bridging the gap between research and industry



*Transcription:*

Hi, I am Semra, I'm researcher and in my space time I love traveling. From an early age I like to explore new countries, meet other people and experience their cultures. This open and curious attitude also brings new ideas and insights into my work as a researcher in developing new sensor methods for cancer

treatment. The GoNano team approached me to participate in a co-creation project. I was invited to discuss with a group of different stakeholders how citizens' needs and values can play a role in recent research. Some of these results were strongly linked to my research, such as: health benefits of improved cancer detection, personalized medicine benefits, research-healthcare-industry

collaborations. After this introduction I explained about my research on biosensors; to develop a new technology of better detection and treatment of cancer. Both technical and social aspects have been elaborated. I also gained more practical insights on how to engage industry in attracting research funding. Because these new insights and advices raised many new questions, I gladly continued this journey during the second workshop. Stakeholders from industry, policy makers, and researchers were invited. The focus for this workshop was on how to include industry in the development of the technology. We all recognized the gap between research and industry and came up with several shared goals to bridge this gap. On both sides, there should be a better understanding of converting research questions into a business canvas and converting business questions into research questions. By involving industry in the developmental process, researchers can become more aware of social and market needs. We have developed an action plan for researchers that can be of great help not only to me but also to all my colleagues. It has been a very fruitful experience for me to include new perspectives from different disciplines in my research and to receive specific advice for how to get in touch with industry. I also started building my network with people I met during the GoNano co-creation workshops.

## [5.5 Improving autonomy and well-being for diabetes patients](#)



### *Transcription:*

Hi, I'm William, I am an avid mountain biker and I have Diabetes type 1. This means that have to monitor and regulate my glucose levels, day and night, every day of the year, I'm always on the lookout for new developments that can help me manage the burden of diabetes. That's why I was motivated

to take part in the GoNano project. I was invited to participate in a co-creation workshop with other citizens, of all ages and different backgrounds. Our group focused on medical devices for the diagnosis and monitoring of chronic illnesses. We talked about the continuous awareness of health indicators that these devices can provide and the effect this could have on the patient's well-being. We also discussed privacy and security risks regarding the data collected. We saw the benefit of increasing a patient's autonomy, but emphasized that the health professional should still be included in the care-loop. After this workshop, I was invited to take part in follow-up workshops with other stakeholders. These included representatives from business, policymakers, Civil Society Organisations, and researchers from social and natural sciences. The workshop started with an introduction of the citizen workshop and its outcomes. We were then presented with the concept of an Artificial Pancreas, a new medical device that a start-up company is developing for treating diabetes. We discussed the opportunities and pitfalls of the proposed data management plan, with a focus on the patients' well-being and autonomy. The artificial pancreas was designed to take away the burden of diabetes from the patient by not displaying the data and health indicators that it measures. But for me and other patients, we rely on this data to feel secure and in charge of our condition. I *want* to have insight in my data and see how it fluctuates. After an interesting co-creation workshop, we concluded that the possibilities for patient autonomy and securely sharing data were good, but that patients should have a say in the visibility of their data. I will be sure to continue following the development of this device as it moves toward market approval. And I will continue to provide feedback on it whenever possible.

## 6. WEBINARS



### **6.1 CO-CREATION IN RESEARCH AND INNOVATION**

#### 6.1.1 Webinar 1-1: What is co-creation?

#### 6.1.2 Webinar 1- 2: Why co-create in research and innovation?

#### 6.1.3 Webinar 1-3: Who are the stakeholders for a co-creation project?

### **6.2 CO-CREATION IN PRACTICE**

#### 6.2.1 Webinar 2-1: Planning your co-creation process: part 1

#### 6.2.2 Webinar 2-2: Planning your co-creation process: part 2

#### 6.2.3 Webinar 2-3: Planning your co-creation process: part 3

### **6.3 OUTCOMES AND RESULTS OF CO-CREATION**

#### 6.3.1 Webinar 3-1: Outcomes and results of co creation

#### 6.3.2 Webinar 3-2: Recommendations for policy to support responsible research and innovation practices

## 7. OVERALL PROJECT SUMMARY



*Transcription:*

### **Enabling co-creation in nanotechnologies – the GoNano project in 90 seconds**

When creative minds come together, new ideas emerge. The GoNano project sought to unleash the power of co-creation on the design and development of nanotechnologies, orienting research to products and services that citizens want and need.

Researchers and product developers joined forces with citizens and societal stakeholders to explore nanotechnology innovations and their alignment with societal needs and values.

The GoNano co-creation process has brought together a wide variety of citizens and stakeholders in a series of coordinated events across Europe and has produced a wealth of creative ideas for future nanotechnologies.

Over the course of the events, almost one hundred product suggestions were collected, which were then condensed into five concrete design suggestions that can be fed back into ongoing research and innovation activities. These suggestions strengthened collaborations between users and producers of medical research, food products, and renewable energy solutions.

We've learned that co-creation in the early stages of research and innovation can bring the needs of future users into focus, and that responding to those needs can lead to win-win opportunities for researchers, producers and users alike.

How did the GoNano consortium do it? Find out more on the website and on YouTube.

## 8. THE GONANO ONLINE CONFERENCE

A promotional banner for the GoNano Conference. The title 'The GoNano Conference' is in a purple box. Below it, the subtitle 'Responsiveness to Societal Needs and Values in Nanotechnologies and Beyond' is in a blue box. A text box says 'We want to hear from you throughout the conference! Join the debate through Slido - we recommend using slido on your phone. Either in the browser or by downloading the app.' To the right is a QR code with the text 'Scan the QR code or join with the code #gonano at www.slido.com'. A central graphic shows a smartphone screen with 'Enter the code #gonano' and a keyboard. A large digital timer shows 'Going Live In: 00:14:46'. The right side features the GoNano logo and a grid of partner logos including TEKNOLOGIRÅDET, CSO/MET, UNIVERSITY OF TWENTE, nanotec IT, GIEL, and RMIT UNIVERSITY.

### 8.1 DAY 1 – STRENGTHENING INCLUSIVE CO-CREATION TOWARDS HORIZON EUROPE

### 8.2 DAY 2 – HOW TO CO-CREATE – EXPERIENCES AND TOOLS

### 8.3 DAY 3 – PRACTICING SOCIETAL ENGAGEMENT IN RESEARCH AND INNOVATION