SUBJECT: **CLC Lecture Series: Smart City – A Stepping Stone to a Smart Society**

INTERVIEWEE: **Mayor Rob Van Gijzel**

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DATE: **28 March 2016**

DURATION: 1 **Hour(s) 35 Minute(s) 28 Second(s)**

Note:

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AC 00:01	Your Excellency, distinguished guests and fellow colleagues, welcome to today's CLC Lecture Series. My name is Adeline and I'm from the Centre for Liveable Cities. The Centre was jointly established by the Ministry of National Development and the Ministry of Environment and Water Resources in 2008 to distil, create and share knowledge on liveable and sustainable cities. The CLC Lecture Series is one of the platforms through which urban thought leaders share best practices and exchange ideas and experiences. In today's session, we are very honoured to have with us, Mr Rob Van Gijzel, Mayor of Eindhoven, The Netherlands. Mayor Gijzer will share how Eindhoven has shifted its focus on laws and regulations to experiments and initiatives of its residents, businesses, research institutions and other parties in civil society. He will also describe how cities can move towards humanised technology, technology developed in collaboration with citizens. The presentation will be followed by a moderated panel discussion and a Q and A session with the audience which will be moderated by Professor Low Teck Seng who is the Chief Executive Officer of the National Research Foundation. With this, let us begin the session by inviting Mayor Gijzer on stage. Mayor, please.
RVG 01:40	Ladies and Gentlemen, it is an honour for me to be here and that you invited me here to tell something about the developments of our city, regarding the smart city developments over the last couple of years. Maybe it's good that I start a little bit about the history of the city of Eindhoven. Some of you are familiar with this history but I presume not everyone knows exactly what happened. I start in the mid-nineties. We had severe economic problems in, around 1995. The city of Eindhoven is the cradle of the Philips Company. This year they will exist for 125 years. But in the nineties, a lot of labour went away to South America and Asia. And our DAF Truck manufacturer, the second largest company in the city broke down. And the supply companies lost another 12,000 jobs. Within 2 years time, we lost a third of all the labour places in the city. And, maybe to tell a little bit. The city is a small city. The surrounding, including the surrounding, we are near 2

million. The city itself 225,000 citizens. That time it was 180,000. So the labour places dropped down from 110,000 to 75,000 and now it raised again to 164,000 jobs. We did nearly 90,000 jobs in 20 years. But we didn't know what we were seeing at that time. We lost a lot of labour. But now we can see that it was the first signal of a [indistinct] from a traditional manufacturing economy to a creative, knowledge and a digital economy. But at that time it was unknown for us. So we started with another approach. We want to overcome this economic crisis and what we did is, that we said we have to do something together here. And we invited the corporates, some of the corporates and representatives of the knowledge institutes and representatives of some of the cities around Eindhoven and the Mayor of Eindhoven himself, I was not a mayor at that time. And we started what we didn't know, what came out later on as world-wide known as the Triple Helix Structure. We worked together there with these three – government, the knowledge institutes and the entrepreneurs – and one of the scientists said, what we are doing here is something like a DNA collaboration. We are undividable. This is a double string. This is a triple string. This is a triple helix. And those words went all over the world. This was 1995.

| 03:55 | So the way of doing like this, this triple helix was very important for us. We made an organization, the Brain Point Development Organization, the name came later but the development organization immediately was there, the governmental side put money and a fund, and we doubled it with European subsidy. And then we asked the entrepreneurs to make a committee together with the scientists and other entrepreneurs could make some proposals to improve economy. And they were judged by this committee. And it was immediately successful. You could not make a proposal for your own company, you had to make measures for a more general economic purpose. And then it came out, we are still doing, this is very small nowadays, but at that time, it was huge and successful. So the second one is, next to this triple helix collaboration is, we started around 2000, what we call the open innovation strategy. The open innovation strategy is a strategy that has been |

| | found out by Henry Chesbrough, an American guy. And Henry Chesbrough said that huge corporates will not be able to do the research and development in the future anymore, or the way they did in the past, they will not find the financial resources to do so. And he was right. And when you look to the Philips Company, and you look to the products, you can see that half of the products of the Philips company were not available to the market 2 years ago. That means that a life cycle of a product is 4, 5, maybe 6, 7 years. Then it has to be not an update but a completely new product. That's quite expensive especially now when we look to the high cost research and development to get these new products. So Henry Chesbrough made a proposal for working together. And that's strange because it was [sic: unseeable] in that moment, that you are going to work together with your competitors and research and development and we did. |
| 05:42 | So you do only research and development sharing and it's a pre-competitive [indistinct] so the applications are common. Later you have to do on your own. Let me give you an example. I myself went to Samsung in 2009, 2010. Try to invite them come and join the research. [indistinct] institute on the high-tech companies in Eindhoven. They were looking me and they thought well this is a bit weird mayor. He is saying that we have to work together with Philips or other companies and well, they were polite but they were not really interested. Well, later, there was a phone call. That they would have a look and now they have the largest research facility outside of Korea in Eindhoven. Why are they doing that? Within [indistinct] institute, we do research and development on very thin film. This thin film, it's for Philips, they use it for medical imaging. And some film is now involved for affordable tv screens. But we are using it [indistinct] for flexible solar panels. And a German automotive industry, they use the thin film for the screen of the cars. There's a huge amount of data and you can [indistinct] all kinds of things. It's very expensive. It's very expensive. And to make the machine, we make the machine as well, where you can make this [indistinct], it's very expensive. It's very complicated. So it's hard to do it |

	on your own. And when you do it with other corporates, then you can share the investment money, you can share the people, you can share the IP, we got an Intellectual Property Management Bureau so we know exactly what you bring in and we know exactly what you bring out. We share the requirements like for example, clean rooms that kind of thing, we share the risks. When something has gone wrong with this technology and you have to bear it on your own that's quite expensive so you can share the risk of research. But the most important thing is because you speed up your processes you can be in the market before your competitors. And so the life cycle of your product will be longer. That is the second one. We got the third one and …so the triple helix and the open innovation. I got a third and a fourth line, I will not tell you them all but you can see that this was rather successful.
07:53	And I tell you a little bit about what our international recognition gave. In 2009 the European Cities organization called the Organization of European Cities they called it our way of collaboration is the best way of collaboration throughout Europe. And 2011, ICF in New York told us that we were the most intelligent community in the world. And Forbes came out based on OECD figures, when you look to the place where we introduced this open innovation. Nowadays, they are working more than 150 corporates there together. There are more than 12,000 people there together. This is the source of our patent industry, when you look to the patent density then you can see that based on OECD figures, 22.4 patents on every 10,000 citizens. And San Diego in California, on the second place worldwide is 8.9. We 22.4 and they 8.9, worldwide. So this is something special, the open innovation. There are some more awards but I will not tell you that, I will skip it.
09:01	Then this time, and then I come to Smart Cities and Smart Societies. This is a real disruptive time. Let me give you some examples. World's largest taxi company owns no taxis. No chauffeurs. No cars. It's Uber. The largest accommodation provider owns no real estate. Air BnB. The largest phone companies own no telco infrastructure – Skype and WeChat. World's most

	valuable retailer has no inventory – that's Alibaba. World's most popular media owner creates no content – that's Facebook. The fastest growing bank has no actual money – Society One. World's largest movie house owns no cinemas – that's NetFlix. And largest software vendors don't write the apps and I talk about Apple and Google. The world is really disruptive. Not only when we talk about technology, but the society and government, they're really disruptive times. So there is something that is really going on and I have to explain what had happened in our city. We were working in this [indistinct] area whose name was given by the Dutch government in 2005. We were working over the last 50 years with programmes. We have chapter. There's a chapter about basics which is infrastructure mainly. We talk about people, about labour market, education and that kind of things. There is a chapter about technology. What kind of technology do we need? And there is a chapter about business. And our international program. We were sitting there together with the board of the foundation talking about these 4 chapters and what is necessary to do and then we made a 5 years programme. And the second time, we made a 5 years programme and a third time we tried to do so, but then really times changed. We still have these programs. But we added something and then I'm going to explain how we did it.
10:51	What is very important is to see, by the way, we call it cluster communities. It's very important to see what's going on in the world. In Europe, 80% of the people live in cities. World-wide will be 70%. You will be 100%. But world-wide, a lot of people will go to the city. And that's because of the dynamics of the city, the connection you can get, the serendipity you can find, the kind of social things. And that gives us as local government a huge assignment. With so many people that are coming to our cities, what do we have to do on education, on housing, on health, on all these things, but that's not all. Because all our systems, looking to mobility, looking to energy, sewers, water, whatever, all our systems, necessary to make our city liveable are outdated. So we not only had to make space for new people, but in the meanwhile we had to renew all our

	systems. And that's a huge assignment. And I am very much sure that we cannot do it top-down. Top down in our country means from the national government to the provincial to the municipalities. It will be impossible and let me explain to you why it's impossible. And it's in nearly all the countries that it is impossible. Maybe Singapore is a little bit different because it is a city-state. But in our case it's impossible. So we have to do it more horizontally. And the main reason for doing this horizontally is that what I see until now, and I will explain later when I talk about United States, what I see until now is that there are many cities saying about themselves that they are a smart city. Thousands of them. And the only thing they are doing is bringing in technology. But I want to see technology for the people. I want to see that technology is improving the lives of people, that it must be humanised on a humanised scale. On a human scale. So it is impossible to do the top down. We have to do it together with the people.
13:00	So and it must be circular of course. We have a planet as well. And we have to be very careful. It's doing right, it's doing ok but we have to do it even better. What you see if, I don't know if you're familiar with SongDo in Korea, and Marsdar in United Arabic Republic. Their city is full of technology. And the people don't want to live there because technologies is controlling their life, instead of their life is supported by technology. It's the other way around. So you see, it is very hard to organise, it is not only technology. And that is why we do it with co-creation. Let me tell you why it is necessary to do it on this mezzo level. Mezzo level is not the micro level of national government. Mezzo level is the level of the cities where you can bring all the stakeholders together. All the stakeholders together. The entrepreneurs, the knowledge institute, the local government, the housing corporates, the people, the [indistinct], the [indistinct] institutes, all together. That's the mezzo level. It's the level where you can be in contact with each other, where you can make some agreements together, where you can talk together, and it's not only the government decide that says this has to be

	done. And I give you an example. When Obama is going to under-sign a treaty with the President of for example, China and it would be here and it would be two agreements there. And both are signing this agreement. What do you think will happen? Nothing. Nothing. There will be a lot of cameras, there will be newspapers. When the entrepreneur in New York is going to do something with the entrepreneur in Beijing, when the University of say St Louis is going to do something with the University of Shanghai, when the local governments are going to deal with each other, this is the level of the real life. It's within the cities and it's between the cities. National governments are not organising the real life. They make it possible that we can act but they are not organising it. So this is, as far as I can see, this will be the centuries of the cities. When you look to Europe and the United States, you can see that 2 or 3 centuries ago, the century of the national state. France, Italy, Germany, The Netherlands, United States. I don't know how it was in Asia but probably it will not differ a lot. It's the century of the national state. And then the last century was the century of the super national institutes. It's the [indistinct], IMF, World Bank, United Nations, the European Union, ASEAN, etc. and because of the fact that our society is disruptive and complexities is going on. And there has been cross overs. There are cross overs, it only can be done at the mezzo level. So this will be the century of the cities. And that is something we have to be aware about. We cannot do it as the city alone so this will be the century of the cities globally.
16:17	Oh what's the problem. Now it's gone.
16:42	Ok, so when the world is changing that heavily, and the government doesn't have its [indistinct] anymore, I'm going to explain you why. Why this..of course you understand on the micro level it's just the corporate or the government itself, very difficult to make connection if you stick to yourself. I've been a member of the Dutch parliament for 13 years. I did a lot of legislations and debates. But I can tell you that when we did a debate about legislation, about law. The moment we agree on the law, it was outdated.

Because legislation, we make laws on the knowledge of that moment. We doing well, we try to do well but we do not know what will be, what will come up, what the future bring. We do not know what technology will be available that should be involved in this legislation. That means that legislation, and that's the tool of the government always look to history. Always regards to history and never to the future. And they are blocking future even. So national governments with legislations and laws are blocking the future. Blocking innovation. That's something that's very hard to understand but it's really true. So what we do, is the government is changing, the world is changing so intensively, we have to do a [indistinct] as well. There will be an exponential economy and the question is how can we be part of it? And that is something that I call the horizontal way of working and let me, to make it more concrete, let me give you some examples.

I told you about these chapters and these programmes, 5 years program. Now we are going to organise them, now we say we come from smart city to smart societies. We make platforms. For example, a platform on health. We call it smart living. On this platform, more than 80 stakeholders near our region are there, active. Hospitals, doctors, nurses, care and cure institutes, health insurance companies, well, the citizens, elderly, youngsters, government, designers, all kind of stakeholders are there, housing corporates, they're all there.

18:52	And they talk about what do we see together as the most intensive challenge regarding to health. They discuss about it and they say, well, there's someone who's saying, I got an idea. I want to do something to solve this problem. Who's going to join me? Of course, there's always the government involved, always. But you make a living lab, the platform is here, you make a living lab and give a specific example. A couple of months ago, a representative of the Philips Company said ok you as the government, we as the people, want to have elderly people live in their own house for a longer period. What can we do? We are working on a device but we do not

know exactly how we have to handle this. Can we have a cluster community? So they said, on this platform, can we make this into a living lab? So they were sitting together with several stakeholders, hospitals, doctors, elderly people, very important, housing corporates, and then I'm going to explain you exactly what happened. There is a device here. This device, you put your hand on it, and you immediately see the shortage of vitamins, minerals, level of iron, the level of sugar, your blood pressure and all that kind of things. And here is a device, there is a preparation coming out. It solves your problem when you take the preparation. They are connected. And the elderly people don't want to use it. Elderly people don't want to use it. And it's great. And do you know why? Until yesterday, in our system, before they get this device, there was this nurse coming by and this nurse was taking the blood pressure, and was getting out some blood for your sugar and that kind of things, but was giving you a cup of coffee as well and a [indistinct] and a cookie. And it's very important, especially when you are on your own, old person. So this is social contact. And we found out that we have to do something different. So what we did, we made a specific kind of digital solution, we are still working on it, that they can get into contact. They say well, who do you want to be in contact with? I want to be with my neighbours and other old people, or with friends from earlier times, or with relatives, we make it possible.

| 21:08 | They were not digital connected but now they are and they have more connection than they ever had before because now they talk and say, well, someone can say I'm ill, you say I'll come by. I'll help you. I'll do the shopping or the other way around. So this device and this way of thinking, a co-creation, we found out that we had to do something completely different. Philips would never have thought about this on its own. So that's something we did together. |

Well we got more of these kinds of things. Like we do in the night life streets. We work with the youngsters to get new technology [indistinct] but with their agreement on a specific way. Well I give you the example. When

	I look to the night life street, we have the largest night life street in The Netherlands. As a Mayor, my tool kit is to bring in a lot of policemen, security and safety officers. And that is quite expensive. It put the street in control and doesn't give a feeling of a nice environment. So we ask the technological university, the design academy, the government is involved, the street owners, the bar owners are involved, the police are involved, the youngsters are involved.and then quite a lot of companies are involved and then we ask ok what are we going to do. We call it design out crime. What can we do here? Then we came up with an idea. Maybe we change light here. Because light is an influence on behaviour. So when you bring in the light in the street, green and blue light, it gives you a calm environment. We give out a smell as well. And when something is going wrong, someone is going to shout, then immediately they will be highlighted, there will be a highlight, there will be a floodlight, immediately there. And when he's running away, we get the technological device to follow him so the police know exactly where this guy is. So running away, and this is detected by what we call sounds, video, we have a video and sound, it's very special. It's very special and we do it with crowd control. This is brought in together with the youngsters. They accept it. They say it's great. Great what you're doing. There's a huge support. So we are doing a lot of this kind of field lab [indistinct]. And then I come to the legislation again.
23:22	I was in the House in 1998, the House of Parliament. I was there representing the largest party and we were dealing about the public transport system. We made a legislation and it was called WP, W was the law, WP 2000. It is still an existing legislation in the Netherlands for the public transport system and taxi. But I have to tell you, I have to tell you in 1998, I had heard about the internet. I never used it, I never used it. So in this existing legislations there is nothing that connects it with internet or the digital world. Nothing. But it's still the existing legislations. And now Uber came to my city, with [indistinct] and I say ok I want to look you it. So with the existing taxi drivers, and [indistinct] we are going to make a new system. Can we do this?

	And the national government prohibit this. Because they say in the existing legislation, there is necessary to have an on board computer, a computer on board. With smart phones, it's outdated but it's in the legislation. So we could not do [indistinct]. And what, why are they so strict? Because there are 50,000 taxi drivers. They all invested 5,000 euros in a computer and so we say it's not necessary anymore and they say ok then you have to pay me half of it back. And that is 50,000 times 2,500. That's a lot of money. So the government is blocking again. Not only on the legislation but blocking because of financial reasons, the innovation.
25:00	And the other one is, and that is even more concerning me. That the government is not having answers on new technology. So what is already existing they can block it with legislation but something new. I'm rather sure that Apple and Google are coming up within two years with a watch that is already existing with your condition that kind of things, you can see your blood pressure and all this kind of things from your body. And that mean that they can see that what time I took my first glass of wine and how many I took. Or liquor. Or what time I went to bed or what time I went out of bed to do a pee and back again. Or what time I went out of bed this morning and how many cups of coffees I have used and this information is go to California to their commercial side and to scientific side. The commercial side is using this kind of data, this kind of data for commercial purposes. So you can sell it to insurance company, to health insurance company. Wow you have to look to the way he is living. So they make a business case of it and there's no one who can provide it. No one, because it's new technology and there's no legislation in a country that can block this development. So what are we going to do here? We have to stop this, we have to make this kind of data more public that's the first one and we'd like to invite for example Google, to come to my city and do an experiment. So that we can join the commercial and the public interest together in a horizontal way. If we let them go, they will only go for the commercial side. So co-creation is very important to deal with all kinds of developments. It's the world of

	Manuel Costelles. Manuel Costelles is a man who is from Spain who is living in the United States and Manuel Costelles wrote a book in the nineties about the network society.
26:55	Now I'm coming to the United States what you see there. There is something completely different when you compare Singapore and as well to our country. I spoke with Google, the representative of [indistinct] and with [indistinct], with Tim Draper from the Draper University, with Cisco quite often and what you see, is that they are saying, and in your case it's really incredible but they really say it. That as a corporate, regards to smart cities, we can make people healthier, live longer, it will be cheaper, we can provide energy on a cheaper and sustainable way, we can make the mobility systems better than you can as a government, cheaper and better for the people. They say this whole range they can tell you. And [indistinct] even Bill Gates was telling this three weeks ago from Microsoft and he said, I can organise society better than the government can and there is a proposal, and this is serious, in the United States, in California, there is a proposal of this huge companies, that is to say we want to have a society without a government. Without a government, because you are blocking society. And that means, if you think about it, that means, this [indistinct] world of the traditional government will be replaced by the Google stuff, well-organized society, the public interest is gone, the commercial interest is there, will be replaced. This is not the answer, I'm sure about that. But they made this proposal. And what will happen then, they will organise. Well I found out myself, I've been quite often in Silicon Valley. When they talk about we can make people live longer and healthier, we can make a better transport system, I can tell you who has been here in San Francisco? Have you been to San Francisco? How many beggars do you see there? A lot! So what are they talking about improving society? It's improving society only for the upper [indistinct], not the society itself because they are not interested in society, they are interested in money and that is something completely different. This is what Cisco is doing. It's great that they are doing. They are bringing all kinds of

	new technology to your city but the only aim is for them to earn money. And they are telling it, it's smart city. I'm interested in a smart society where people are involved, where technology is humanised and circular. That's something completely different when you compare it to the American guys.
29:23	So we need another structure of society and economy. And I would say it's blocked by legislation. I want to have and I told it already to the Dutch government. I want to have, as a metropolitan area, the right to do experiments. And why do I want to do this? Because we do not know what future will bring and what will be successful? Do you know what will be successful within the next 5 years? Do you know it? So we have to find out. I can tell you the future is not going like this, from A to B. Future is going like this – mistakes, success, mistakes, success, mistakes. That's why we said in our local political programme, that we want to invent future and we accept failure. Because if we know at the fore what will be successful then we can immediately do it but we don't know. We have to find out. So we have to do experiments. And to get the experiments we have to do it horizontally. Because then you get the support from all the stakeholders from this way of thinking. You're doing it as a government, well you will never be able to make mistakes like that. They will not accept it. So it's very important to see that if you want to experience future, then you will have to accept failure but the main key is here, do we learn of it? Why am I saying this so fanatic? Let me tell you a thing about health. What I see if a lot of money that is lost. 95% of all research on health is not successful. Only 5% is coming in the Lancet or the British National Journal, medical journal. The British medical journal. 95% is not published. But knowing that something is not working is just as necessary as knowing that something is just working. So you can stand on the shoulders on the research that is not successful. So you have to publish it as well. This is 95% that we throw it away. We throw it away. And that's the same from your city. We can learn a lot from each other about all kinds of experiments that are not successful. Worldwide. We have to exchange it. We have to learn from each other. And

	then I'm going to say something strange. I'm Mayor of the city. And I want to be out of control. Not all the points but certain specific points and let them go. Let them go and maybe it will be successful and it will be a frontrunner, maybe not. But if I always want to know that I'm in control, then I will stop new developments when I'm not sure it will be successful. This is a pity. That is about medical research that kind of things. Like I explained top you before.
32:19	So what I found out in the first place, when I became a mayor 8 years ago, I wanted to be the smartest region in the world. The smartest region in the world. Then in 2011, in New York, they names us to be the most intelligent community. And we were named by Forbes, I told you before and all this patents and the density. And then I thought when I came back from new York, ok we achieved this, and then when I look at the international ranking, we are the top 3 cities worldwide with knowledge. But how much money do we earn with this knowledge? And then I found out we are in worldwide, 13th place. On the 1st place was a specific place in Korea, Tokyo is on the list, Switzerland, specific areas like Zurich, couple areas in Germany, Boston, Cambridge, they were all above us. With less knowledge they earned more money. That's strange. That's strange. So we improved our programme, our business programme, and we raised to the 6th place. 1 and a half years ago I was in Nanjing, in Shanghai, invited by the Chinese government to do a lecture about the transition from manufacturing economy to creative economy. And then the Minister of City Planning [indistinct] development was there and he was talking about a 20 years plan. And then I thought, 20 years? 20 years that's now 2035, 20 years ago. 20 years ago then we're talking about 1995. We hardly know anything about digital world. Nothing, so how could I have planned society from what it is now in 1995? That's very hard to do even 5 years. As it is not impossible. So then I thought ok, we must be smart, we must be smart, we must be strong, but the most critical thing is we must be adaptive. We must be adaptive. So I said, smart, strong, adaptive. We changed our way of

| | government, like I told you with these platforms, that we can be adaptive with all these stakeholders. And it is not a written programme. We are not sitting there together with clever people who know what is going on in the world and then they say we are going to take this development in which we can support each other. So we wanted to be adaptive then I found out a couple of weeks later that, I thought about myself this smart and strong, adaptive, but it's Darwin. It's Darwin. It was Darwin who was saying, not the smartest or the strongest species will survive but the most adaptive one. And that's exactly the same with cities. When you're not adaptive, when your procedures are not adaptive, when the people are not adaptive, when they're not together working, there's no support, they will not be adaptive. And so you will not survive and then your vulnerable points will come up. |
| 35:20 | So this is something that for me is very important. What I, what we did is I thought what kind of collaboration is necessary in this adaptive world. Well of course these platforms but there is more. We have to implement a collaboration between the corporates. It's industry 4.0. open innovation but for the suppliers as well. We have to make an inter-sectoral collaboration. You cannot do it by your own as a sector. So water, you talk about health then you talk about water, health, food, technology and that kind of thing. The fourth thing is that, this is 5 I's, inter-disciplinary approach. We brought in people we had never used before. Designers. A designer traditionally it's about the shape, something, but we used social designers. They look at a completely different way to the problems we are facing. The fourth one is to be inclusive, get people involved in the process of developing. And our international programme. We have to join forces. Is there any large city in the world that is not suffering from the mobility question, with the mobility problems? Is there any city in the world that has an appropriate education system? An appropriate food supply system? Any city that has no problems? No. we all share more or less the same problems. So we have to learn from each other. And if we are all going to do our separate way, it's fine, but just like I told you with the open innovation, it will speed down our way of |

	development. It will speed down the solutions that we can introduce. Well, I'm chair of ICF in New York. And that's the Intelligent Community Foundation. We organise 400 regions, many technologically driven economies, and we are looking to the world I collaboration with each other. And there I thought well, maybe we could look to the world on collaboration on, there are 3 huge economic markets in the world – North American [indistinct], European Union, and the Asian market, mainly dominated by China. And we look inside these markets and we see the most intensive relation between two markets is between Canada and United States. The second one worldwide is between Germany and the Netherlands. And the third one worldwide is between Taiwan and China. So we were all sitting there with Mayor [indistinct] of the Toronto area, and Mayor Hau from Taipei, we were discussing this and said we have to collaborate. We can be friends because we are the smallest in these markets and we have a very intensive economic relation with the huge countries so we can help each other.
38:09	To get [indistinct] via Canada to the United States, via Taiwan to China, via Eindhoven to the European market. We can change insights, we can change experiences, we can change tenants, we can exchange research, we can do everything together, we do and it's very helpful. It's very helpful this way of collaboration of these smart societies or these smart cities. So when you see when we talk about smart cities, and this is the end of my speech, that I'm very much involved, I do not have the definite answers, but I see something, that the answers are not coming from the corporates itself. We have to bring in the public interest in this process. And that's, we have to join forces with the corporates of course, and experiments, but we have to do it together and not only like the American model. So it's about smart cities, transferring to smart societies. That's the most important thing we try to do in our city. And in the meanwhile, it's a transition from the traditional manufacturing via the creative knowledge, digital to creative, adaptive and big data. And the last point is, who will process the data? And it's a very

	important question when you talk about smart society. When the data is the ownership of the corporates, then I think the society will be lost. So we have to be careful together. And we can learn a lot about the challenges we are seeing, and how we are going to help each other get new developments and improving the life of the people. Thank you very much.
AC 40:17	Thank you Mayor Gijzer. Ladies and Gentlemen, during the Q and A session, we ask that you please state your name and organization, before asking questions or making comments. You may raise your hand and our staff will walk to you with microphones. I will not like to invite Professor Low to join Mayor on stage for the moderated discussion and the Q and A. I will now hand the time over to Professor Low.
LTS 41:01	Good afternoon Ladies and Gentlemen. First, we should thank Mayor Van Gijzel for a most inspiring talk. You know, in my short career, after all we all still very young right? I have lived through some of the transformations you see in Eindhoven. My first trip to Eindhoven was in the seventies. That was the heydays of Philips. And I went as a young student to Nat Lab. Philips Nat Lab translated is Philips Physics Laboratory. And there I did some very fundamental work in magnetism which goes into the disk drives. That's why I was involved in the disk drives. And it was really inspiring when you go to Nat Lab, the sprawling campus. You know most inspirational. Then I went there again in 1995, 96. And as you heard from Mayor that was the time they went through severe transition, transformation. I went there because of colleagues I have there who were friends. Professor [indistinct] who is well known for his work on the CDs and DVDs. They were in transformation but it was something we did not see because Singapore was in the throes of industrialization, going high technology with the disk drives, starting our semiconductor industry. It was a different era for us and quite different from them. But we have transitioned from there to something else. So has Eindhoven. I've been to Eindhoven many times. The last trip I went there was 2 and a half years ago. By then, Nat Lab was no more Nat Lab like it was before. It is what you see today. Truly inspirational.

	How they've transformed from a manufacturing industry, which started with Philips 125 years ago, with the light bulb to what it is today. Today Philips strive as multiple companies which has sprung up NXP, ASML etc. But I think they have continued to transform. But I think Eindhoven has rejuvenated, has transformed,. But what about us in Singapore? I think in Singapore we see ourselves through the transformation we have seen for ourselves in the last 50 years. And in the last 50 years we have moved from a country whose GDP is less than a billion dollars to what we are today. We have transformed ourselves through industrialization, through going through high technology, we invested in R and D and today we are on the cusp of a new S curve as we see it. Today we worry because we do not know what the future holds for us. Very much like what Eindhoven continues to explore. So as a start to this conversation I thought I should ask Mayor how he sees things for us in Singapore. You know, sometimes when you look at ourselves, we become very myopic. You know I can see the transformation in Eindhoven, so perhaps you can share with us what he sees in us, the potential that we have for ourselves going into the future, as we are concerned about whether we will survive as a city.
RVG 44:20	Well, what you can see here, the first time I was here was in 1992. I've been here a couple of times. You can see, nowadays, yesterday I was there in the Marina Bay and it was wonderful. I really enjoyed it. There was a light show going on that kind of things. And the atmosphere was great. It was really great. You are doing a great job. Bringing in the green, it makes it liveable cities. Over the last couples of weeks, the last week I've been in Taipei, in Shanghai, in Nanjing, and now here in Singapore. By far, by far, it's the best city of all. I think you are the top three of the most liveable cities of the world. And that is something you've achieved. The question is what are the threats of the future? You did something, I've been here, is there something to do on collaboration? It's very hard for me to find something. Because we are a high tech region, and a design creative region. But I couldn't find any connection about creativity. It was very hard to find some. And on high tech,

	it's kind of difficult here. You have a lot of headquarters here. You have a reliable government, a reliable system on intellectual property, that kind of things that make you great. You are doing great things, but it's mainly dominated, well not only, but mainly dominated by the harbour, the airport, and the service industry. I think if you want to be more independent, then you have to do something about your added value or your own. And you not only rely on what the United States is bringing here. They are corporates. So there has to be something about self-shaping industry, that you can do yourself. I think you need research, therefore you need specific research and therefore you need of course creativity. The last thing is we are very much advanced when you look to design side. I spoke couple of weeks ago to the Director of the largest Research Institute in the world - [indistinct]. And the director, managing director said to me, he said we make, we improve cars year by year, but you are doing something different. You design, you make new cars, which we can improve year by year. So there is something about the Dutch guy, see, it's not only in Eindhoven, but they can look out of the box and I think that's necessary. You did tremendous things. When I was walking there with the forest, and seeing this light show. I said wow that's imagination. But it must be maybe a little more broader. This is Einstein, Einstein once said, imagination is more important than knowledge. And that's something for Asian people, knowledge is so central. It's facts, figures, knowledge, but Einstein himself said imagination is more important than knowledge because imagination is bringing you maybe possibilities of the future. And if you don't have an imagination then you cannot give added value to the knowledge that is existing.
LTS 47:56	Thank you. I think that's a very true observation. You know we are very good at actually working with multinationals who have actually built Singapore on foreign investments. We of course see a great opportunity for us using the great investments in R and D to move forward. But Singapore is a very small place. So you know we are a city state. We have great ambitions and we are very extroverted…

RVG	I'm jealous.
LTS	We're quite happy to learn and quite happy to copy. But you know, so..
RVG	But do you know I'm jealous of Singapore?
LTS	Let us know.
RVG	You only have one level of government. We got three levels of government. Well the energy that is lost by the friction between our national, provincial and local government is incredible.
LTS	But that creates basically a groundswell of ideas from the bottom, sometimes of people you know. There's too much of manna from heaven coming down. But clearly, Singapore has invested, last 25 years on, research and we have just announced our next 5 year plan. And we are quite extroverted and unabashed in terms of where we look for partnerships. We have great partnerships in Europe and America and we seek, continuously, to learn and adapt. And you know you talk about being adaptive and clearly you know that's about survival. I see the adaptation, transformation and [indistinct] in Eindhoven. Now it's a thriving, modern city. It was very exciting when I went there in the seventies you know. I was young physicist working in Nat Lab. Today the excitement is different.
RVG	Very different
LTS	The transformation I've seen is different in the last 25 years in Singapore, you visited us.
RVG	It's different as well you have seen. Well I was here 1992. Well we were there already, [indistinct] I was a member of the Dutch parliament delegation, you had a perfect system of ticketing for public transport system. You put a card in and it was coming out. It was stamped in the meanwhile. That kind of thing and it was a card you could use anywhere. We started with Siemens to do something similar where we wanted to put too much on this card on data. Siemens said if you are going to develop a new card then

	you have to pay 500 million euros, guilders at that time. So it blocked our development over a long period. You were very much advanced by implementing new technology. I'm really thinking of last days in China about [indistinct] and then I thought what do I see? When is creativity coming in? And it's necessary, to see new challenges and give the right answers. But in the first place [indistinct] was talking about food and shelter, and about safety then something with relatives and family. In the end, there is something on higher level of development that creativity is coming in. but it's necessary. The world is so complex now that if you are not creative anymore then you will not solve the challenges that you are facing, the problems that you are facing.
LTS 51:36	I could go on conversing with Mayor Von Gijzel but I think this is supposed to be Q and A as well. So I have to talk to him because I was told it's a panel of 2 – him and me. But really Q and A involves all of you and I will be most happy to take…
RVG	We make it horizontal.
LTS	You know, so…yes please.
Q 52:09	Thank you Mayor. I have, I think I will make 3 observations on your presentation. Hopefully you can delve a little bit deeper into that. I have one question for you. The question is very simple. You mentioned all the, you know A plus B, Uber and all that, is there any instance of a platform or entrepreneur that actually manages and runs healthcare without owning a single hospital bed? That's my question. Three observation. You're right. Darwin never says survival of the strongest. Only business people say that. He actually says survival of the fittest. Fittest is different from strongest and you use the word adaptive. So I want you to say a [indistinct] about that. Second thing is I think your advice to Singapore is probably very apt at this point because we just finished Budget 2016. Hopefully it is going to take off from the last 50 years. We have been doing very well in our philosophy of importing best practices from the world. I think those days are over. We

	have to look at the next practice from Singapore rather than the best practice from outside. And the third one is the comment about data. Wise advice from you. My own little mind tells me nobody should own anybody's data. Data should belong to all of us. So I'd like to hear a bit more from you thank you.
LTS 53:56	Three questions I think. Going backwards one on data…
RVG	With the data, we're doing some [indistinct]. When we want support of the people, then they must be sure that the data is not going around. So we always say the data are owned by the people themselves. But it's rather complicated because not all the systems are looking, are providing a system where you can protect these people. But we try to do. This is a rather principled one because otherwise it can be misused. Although you know, I'm here the only one who is using a Blackberry I presume. Who's using here a Blackberry?
LTS	No one.
RVG	No one. Who is using here an IPhone? Ok. Who is using here a Samsung? Do you know why I am using a Blackberry?
LTS	More secure. Your data is more secure.
RVG	What you did is when you bought your cell phone, there is a manual and at the end they say do you agree. But you didn't read it. You didn't read it. And you agreed. There is a line that is saying, all the data here in this cell phone, owns me as a company, and not you, as a user. You paid for it. And you gave them all the data. And the only cell phone manufacturer that is giving the data to the user, is Blackberry. Nobody can get my data. But when I use the iPhone, or when I use the Samsung device, it's over in the cloud. They do have it. But you are talking about privacy but you are not protecting your own data. And probably you are not aware of this. Who knew this

	already? That the data are going to the companies? Ok. Not all of you. So they said something, they give all the data away and these companies are putting it somewhere on the line and then you sign it. So it's a very important point but be careful yourself.
LTS	Second question going backwards is about being adaptive. He wants you to talk a bit more about adaptive.
RVG 56:36	Well, because of the complexity of society, we have to know that we have to find out what is the proper way. How can we change society in a way that is successful. What I told you A and B, we do not know what is from A to B. you agree with that. So we are going A then [indistinct] then a failure. What is adaptive is take off what is successful. Then we find out then we learn from each other. If we do not learn from each other, then I will learn nothing. There is always more knowledge outside of Singapore than inside of Singapore. I'm sorry but it is true. So there's more to learn from outside of Singapore than inside of Singapore and the same with my city. So we have to learn from each other. And the other thing is when it's going like that, you only want to have successes then it will be impossible. So it's this way of being adaptive, accept failure, going on, that is adaptive as well. And this is a point I brought up in China as well, as well as in Taipei. All the representatives from the government side is saying we may not make mistakes because the people don't accept it. That was for me to reason, explain on the speeches there, on the congresses, to tell if you don't accept failure, they will never find future. And I asked the people, who knows what will be the future within 5 years? None of them raised a finger. So I said why do you expect then that the governmental representatives know about the future? They don't know it either. So they have to find out together. And there is something. You are doing a great job. But there is something about when you look to Singapore, it's about being adaptive. It's about not only vertical but making it horizontal. It's about creativity, there are things that are sensible but you are going to have to figure out how you are going to deal with it. We try to find out. We don't have the exact answers but we

	know we have to do it the other way around. And you are more attractive for collaboration when you have an open-minded attitude where we can collaborate. So when it's a closed attitude, it will be difficult. I want to share, when there is cooperation, I want to share not only bring. But I want to learn from you as well. So when you talk about collaboration, it's always mutual. It's always from both sides. And that you have to find out. Well, this about being adaptive in the world, collaboration, that kind of things that are involved.
LTS 59:38	I think the final question is quite interesting. It says AirBNB the biggest hotel operator without hotel room assets, Uber the biggest taxi company without OEM, can you run a healthcare company without owning beds?
RVG	Yup. There is something special going on. I don't know. Are you familiar with the Singularity University? The Singularity University is in Mountain View. It set up by Peter Diamandis and Ray Kurzweil. One from Harvard, the other one is from MIT. They work for NASA. And [indistinct] in California. And they said wow we got such a bunch of knowledge and we are doing so less with it, we have to do something different. So they started Singularity University. The first settlement outside of the United States will be in Eindhoven. And it's very important for us because they look, they look another way. I spoke with Peter Diamandis. Peter told me that banks will not exist within ten years. Imagine for Singapore. Banks will not exist within ten years. So I called the CEO of ING in The Netherlands. It's a friend to me. I asked him, Rolf, I said Peter said that banks will not exist within ten years and then he said it's not true. It will not even last 5 years. Because why should I pay the Professor when I want to pay to you and you to me. What does he do? He's doing nothing as a banker.
LTS	Because I'm trusted. I'm trusted.
RVG	But there is something. You see it going very fast. So there will be a new way, You know the blockchain? Probably? The blockchain development? Our national bank is going to work with the blockchain. Is anyone knowing

	about the blockchain? Ok, quite a lot of people. When I ask it somewhere else in the world, they say they never heard of it. You have heard about the blockchain. It will change the world rapidly. And the other one is about hospitals. And that is what Peter told me as well. Rob you must know, that cancer will be defeated within ten years. We can even do it sooner but then the regulation of the government is going to provide it. But what we do it, there is something, when a cell, a cancer cell. The first cancer cell is going to do something wrong with its DNA. And we want to get into the cell but that's very difficult. So there is something that can defeat, detect this cell, and defeat it. But it's not possible to get it into the nano structure of the cell. But it's not far away anymore. So when we are there at that level, just put it into your body and it's preventive. It's going around your body for a long term, and then when it's meeting inside your cell, it's getting into the nanostructure, and it's defeating, it's demolishing this cell. So it's preventive and the same thing will be for heart or vein diseases as well. So if you think about hospitals, how many people will be in the hospital when there will be no cancer and no heart failure anymore? That will diminish and it will be about traumas and bone, breaking your bones and that kind of thing. But it will diminish the amount of people in hospitals. So [indistinct].
LTS 01:03:37	So quite a lot of interesting things. For those of you who do not know about blockchain yet, there's a very good book that is written by David Lee, Professor David Lee of SMU. So if you get the book, it will explain to you about the replacement of the secured layer.
RVG	It will affect your life completely.
LTS	It's going to disrupt everything from insurance to banking, and there will be no need for real estate agents you know. No conveyancing lawyers and all this. About data. It's not necessarily about personal data. Actually sometimes agglomerated data that's useful. For example, meteorological data is very useful for us when it's going to rain and if you know the travel

	patterns of people when it rains, we will know how to manage our transport problems when it rains.
RVG	Maybe about the data, we use data and we make them anonymous and then we provide them. So then it will be for general use.
LTS	Right so quite a lot of interesting things. The world is going through a series of disruptions. Even for us in Singapore, one of the big concerns is that the whole world of production and consumption is changing so how will it impact us? Any more question? Yes please. Can you please state your name, affiliation and then your question?
Q 01:05:09	Thank you Prof. My name is [indistinct] from Innovasia. Your Excellency, I thank you very much for your spirited and eloquent presentation. Now I noticed one thing about the first part, open innovation but you didn't mention the introductions, you incorporate the open innovation concept without mentioning the closed innovation that your country have been using for two donkey years, too long a time we have been waiting for and one disappointment on my part, with regards to Royal Dutch, Shell for example, waiting for the green LNG from them, not forthcoming. That's number one. Number two, Philips did not go beyond the ultra 21C innovation after Edison, they pick up from Thomas whatever it is. They moving into healthcare now. So it's going left and right and everywhere. But no mention at all regard to Unilever. So the question is that you can't go into The Netherlands without knowing those three fundamentally. So what do you have on the question of your priority list or a collaborative partnership that you talk about. Do you have anything in mind specifically that you think you can enlighten us moving between 1C [indistinct] 21C, not the kind of yesterday's innovation, not about replicative innovation, you know, demand innovation but real innovation that you have in mind that you can extend us? Thank you.
RVG	Well, for example, we are working together with our Canadian friends on specific things. They're working on Quantum Computing. And it's rather

01:07:03	complicated quantum computing and it's expensive to do research on it. So we are working together with them and they are working on more countries as well. Because you cannot do this kind of very expensive research on your own. We have to share it. That's one. We are doing it. But it's the Perimeter Institute, you can look on google. But they do something that is more significant for me as Mayor. They say if we want to have people to understand, well quantum computing, it's quite difficult. They explain it three times to me and I cannot explain it to you. They told me that if you understand it then you don't understand it. This something special. But it's so complicated. But they say they make a curriculum, they made it about another way of looking to our primary school and secondary school. And we are working together. We got [indistinct] schools, which is another way of classical education which about other content, it's really about other content. And it's about going out to learning organization, learning negotiation, it's three O's. There is another one. What? Entrepreneurial. [indistinct]. Entrepreneurial. So even in the primary school we bring kids out. But we are working together with the Canadian friends. What you say about Shell. Shell is a very traditional organization. Very traditional. It's a combination of Dutch and the Netherlands. I've spoken to Jeroen Van der Veer, the ex-CEO of Shell not so long ago. Think two years ago. I asked him why is Shell not in solar energy? And he said this is Shell, it's in technology, well, we are not used at it. This is being about smart and strong but they are not adaptive. Shell is not survive when they are not going to transfer to [indistinct] renewable energy. To renew the energy system. You can see they have a hard time over there. Unilever something different. I think Unilever is rather adaptive, worldwide. They make products, for example, the China market, baby milk and saying wow. They are really adaptive. They are really adaptive. The point is, and this is maybe because of my words, it can be misunderstood. Open innovation is very closed innovation. Open innovation is not sharing everything. Open innovation is to pick out corporates who can share your research and development, but with another application. And you're not going to share them with all. For

	me, it's something different. When I talk as a Mayor about open innovation, then it's something more in the public space, not in the commercial space. I want to share everything with you. When you come to me, what I'm doing with the designers and the projects, we are doing, because it's public affairs. It's not hidden. It's not research that is hidden. So cities, on a city level, we can exchange a lot of experience with each other and we can help each other. And the second question I have forgotten.
LTS	I think that's it right?
RVG	Ok. Ok.
LTS	Anymore questions? Ok Mayor…very good.
Q 01:11:32	Mayor, earlier on you mentioned something about being the most knowledgeable city but not earning so much from it. Could you share how you jumped from 13th place to 6th? Was it mainly legislation that was stumbling the business, money-making part of it?
LTS	You are the most intelligent city but you were not making money out of it. There were other cities, other knowledge cities that were well ahead of you in terms of capturing value, which is a very interesting word for it, capturing value from the knowledge that your city creates.
RVG 01:12:14	This is very good question. It's a very good question. The first thing was that we had a problem with our internal market. So huge countries always have the advantage of own market. So there's always a point of sentiment that you want to buy the products of your own country, so this is a little bit difficult. But we didn't understand the world so well. So we, you have to go out, you have to organize. The other point is, technology can be different things. Technology can be, you can say, applications of the digital world. Apps. We are having a very difficult part of the technological economy. We are doing the hardware. Do you know ASML? Do you know ASML? It would have surprised me. You all got ASML. You all got ASML. Not one, but tens of them. Here and at home. ASML is a machine and with the

machine of ASML, you can make wafer service. Wafer is aa wafer of all kinds of chips. Chips that were made of it, with thin lines. So, more than 90% of the world's production of chips, are made with machines of ASML. ASML is in our city. So, they make machines that are of new generation. They work ten years on it. They're very expensive. Very expensive. They're only burning money during this ten years. When I'm in Silicon Valley and I've seen a lot of them, there is a student starting his application. He is developing it, there is an investment in it and a return on investment three months later. And six months later you got far more and there's a next one coming. Well, the 1,999 will collapse and it doesn't matter because this is a short termed economy. You have a long term economy that makes it very complicated to invest in. the investors must know what it is you are doing. But the most important point, now I am going to look to Singapore and the Netherlands as well. We thought, we thought that we could be in the Netherlands a service economy. A service economy. So when you look to Amsterdam, it was the financial district, in the Netherlands financial very important, it was the European centre of the finance twenty years ago. Then the Central European Bank went to Frankfurt. And immediately it went down. And that's a problem. So when you look to the logistics, and transport of the Rotterdam harbour, the added value is low. When I became a Mayor, the containers coming in to Rotterdam Harbour, and they had to be brought to Germany. At that time 8 years ago, the added value was 120 euros on a container. Now it's 60 because the chauffeurs from Poland and Hungary and the margins are going down and meanwhile, the machinery, this was [indistinct], the machinery industry doubled in the added value. So you have to look where is your added value. And that's something for Singapore as well. When I was in China, we discussed with the Chinese officials, about their next 20 years program and the 5 years program. They say we want more prosperity. We all want. They said we want more liveable cities. We all want. The question is how do you come there? And then they say we want to go from a manufacturing economy, to a service economy. I would not suggest that they do not do that alone. Because added value is mostly

	found in something that is not here, does not exist, and are make it, make it with raw materials or re-use of materials but make something new that is not there. That is the most value add activity in economy and you can add all kinds of services as well. What will be the source of income for Singapore the next 20 years? When the service economy is going down, when you do not have your own internal economic self-shaping industry, when the internal consumption is at the top or more or less, what will be the fundamental for the Singapore economy? That of course, is the question. I do not have an answer. We are struggling with exactly the same thing.
LTS 01:17:58	I think what Mayor is sharing with us is basically the investment in deep science and how that translates to products that you know, are seeing, capture world markets. ASML machines are actually in all our foundries here, whether it's UMC, whether it's global foundries. So you know they compete only with one other vendor in the world. So they dominate. So the thing for us is to see how we capture value from the deep science that we invest in and develop products that can capture world markets. We have two companies that are world markets, Keppel and SembCorp in terms of the world [indistinct] rates. With oil price now dove so low, it's not a good time for them. But that is market dominance and it's about having products that are leading edge technologies. For us, if you notice what we have been sharing in terms of what we are trying to do with the RIE 20-20 for science and technology going forward is an emphasis on value capture. And that really needs us to work together with large local enterprises, SMEs as well as with the multinationals that are here. So today, working with applied materials we have shipped out from here this 3D packaging machinery which is leading edge. So that's a little bit about what we do in science.
RVG	And what are you doing with start-ups?
LTS	We try to learn from everybody else and try to capitalise on this third segment. We have incubator schemes, [indistinct] schemes, can see an interesting vibrancy now. If you go to Block 71 in Ayer Rajah, you see a

	great vibrancy which result in us actually putting aside two more blocks to promote actually…but I think for start ups we want to go beyond just the apps and the digital world. To go into engineering, to go into med tech, to go into clean tech, to see if we can have a plethora of start ups. That's why I went to Eindhoven to see a start up a few years ago. Questions from the floor? Yes.
Q 01:20:22	Hi. Thank you Mayor. Thank you Professor. My name is Bernice Ang, I'm with a company, with a start up actually, Zeros Labs. And I kind of resonated with what you both have been talking about with deep science and creating new knowledge, new methods of knowledge. My team is, we are a bunch of anthropologists, theatre geeks and designers and we try to understand the complexities of urbanization. One of the things that we have been coming up against is the problems in cities are really wicked – wicked problems. It's whack-a-mole right? You whack one mole and another one comes up. You don't know what may be the most root cause. So as a Mayor I can only imagine the difficulty of your work. So my question is how do you navigate the complexity of problems that are not difficult in themselves, but they are difficult in their interconnectedness to other problems as well and still somehow retain some sanity in your work.
LTS	So Mayor she is talking about the complexity of cities and how cities are governed, operate because they are man y interconnected complex systems.
Q	And how do you make decisions on what to spend money on like first?
RVG 01:21:41	Well you're right. A city is sometimes a strange thing. I look to my own city and I found out that nearly nothing is on a shape of my city. The education organizations not on the shape. Companies are all over the world. And if you look to the housing corporations [indistinct], even the care institutions are not on the sides of my city. So it's difficult to understand why the cities do have this boundaries. But you have to deal with it because it's the local government. We are a partner to provide our city as a playground, in a responsible way, as a playground for all the stakeholders to be involved.

How do we organize this? Well I said something about, I do not always want to be in control. I've seen so many Mayors, they are just by being stubborn and stick to their own vision that they block the development of their city. So this is something. I just told you that there is more knowledge outside of Singapore than in Singapore. But there is far more knowledge outside of my brain than inside. So I have to admit that people, when you bring them together then they most of the time, I can hardly imagine one example, that they are really involved, that they really want to do something. You have to learn about, well there is a problem, and that's something I try to find out. I have to explain this way. When we talk about this national governments, then for example, we look to Singapore, after your, well, this is already a society that exist for a very long time but after your independency, you make a set of regulations, way of working in your society. It's [indistinct] the rules of the game. It's the rules of the game. But for this horizontal world of [indistinct] no rules of the game until now. So we have to find out. This is complex. This makes it double complex. But it's to the stakeholders to find out. Of course, to us to make a kind of rules, well people are involved admit it that these are the rules. I can immediately see it in my own city. We do have a project and it'd about refurbishment, refurbishing a specific area. And what happen there. There are 8 or 9 stakeholders there working together. It went fine until one moment. One of them, he had an interest, a specific interest, and the others were not willing to give everything away to him. So then he went to the press and that was [indistinct] by the council, the city councillor. And the city council immediately asked questions to the mayor and the elder man and I had to interfere top down. I didn't want to do so. Because then you are going into the traditional way. But it's sensitive, it's difficult. You have to name it. When you tell the people, that this is going on that way, then they see it. I will turn to the Netherlands. On the 11th of April, an informal meeting with my council, going to tell them this and even more, about their position. We say there is democratic legitimacy for them. But there isn't any more and I'm going to tell them. They will not like this message. But it means that they have to think about it and we have

to find other ways. Because when only 0.1% is making the list of the candidates for the first, I told you about the 2.5, only 0.1% is making the list for the parliament, for the local council, and they are making the programs, for the city, and they are making all the decisions, they cannot be true in a model society. This society is not from the government. The city and that's something I got deep in my heart. This [indistinct] the city is from the people who live there. When you look to the Greek, there is a great difference between Plato and Aristotle. Plato was a structured man. And as a philosopher he said, society is being divided into three layers – it's the noblemen, and they make the decisions. It's the people who do the trading, the trading people, and it's the slavery. They got nothing, they are dependent on the …and his pupil only one generation later, Aristotle said. No. we are looking here at the wrong way. The society, the city belongs to the people who are living there and then he comes to a very special election system. He says when the city is from everyone, then everyone do have the obligation when they go by lottery, the lot will be they will have to govern, then they will be implemented there. I have to explain this. Aristotle said I don't want to have elections with names and that kind of things. Because then you can say vote for me and I promise you something. This is what we get everywhere in the world and they are not doing because they don't know what future will bring. And they will not give you what they promise so [indistinct]. Well, what Aristotle said was if the city belongs to all the people, when there is a pot, we put all the names in it, we take it out, pick it out, then we will have a representative 30 people, a representative, board, council of what the city is and the obligation is that you have to do this. But you cannot promise before because it's with a lottery. So this is something, [indistinct], we were saying great things about society at that time. We are not doing this way but it's the idea. Aristotle is by far the best philosopher. Talking about how you govern a city, from all the ancient Greek philosophers.

LTS 01:29:19	Well a rather philosophical perspective from Mayor. Ok, we have just gone past 5. I think we have to come to a close. But I thought I'd just elicit one more comment from Mayor. The transformation of Eindhoven is beyond city structures, beyond economic institutions, industrial institutions, beyond academia and government in their statement of what they come out with is an evolution of a state of mind. Perhaps Mayor you can share with us what you mean when you say this evolution of Eindhoven is a change in a state of mind.
RVG	Well, it's a state of mind of the council of course. It's a state of mind of the responsibility of all the stakeholders in the process. They got a lot of responsibility. You cannot say to the government, ok organize for me. This is not the time. You, it's and the state of mind is, I wrote for the National Association of the municipalities in the Netherlands a booklet about societal initiative. And this is something strange. What we see is this is the third wave of emancipation in the Netherlands. First was the guild who were independent of the noblemen. That's long time ago. And then second one is the moment that people get education, get access to the writings and the readings and the access to information by radio and television, [indistinct] Nowadays they can do something that was until now, only given for the government to do. It's organizing people in a way that they never could do before. And they can. So the society itself will change. It's a change of mind and we do not know exactly the answer. But it will come up. It will come up. And this is, well, we have to find out and I do not know, I told you before, I do not have all the answers. But that it's changing very fast that's for certain. And we have to find out. Well, you are struggling with different things, maybe same things, an exchange between cities in that way is very important. And maybe the last remark. When I look to the European Union, and I don't know if it's really, maybe it's more or less the same, but you know, Professor, more about this than I do. When I look to the European Union, European Union institutes that last already 70 years. It started immediately after the second world war because we don't want to have war

	anymore. And then it was called the community of raw materials like steel that kind of things. And coal. And it was important to share it, and then it came to be more of the United States of Europe. It was a working together between the national states. But what I see is that Europe is destined to [indistinct] on the borders of the national states. That's very vulnerable because Europe must be united. That's the only way to avoid war and that kind of things. That's why I think. I feel like there is a task for myself to get Europe re-united based on the collaboration between cities. Because cities can work together in Europe and maybe it's the same in Asia as well. I don't know.
LTS 01:33:17	Well, thank you Mayor. Thank you for a very exciting and interesting talk and thank you all of you for being attentive sharing with us your questions. Thank you.
	[Recording ends at 01:35:28]