“Bosch Limited Conference Call”

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Soumitra Bhattacharya: Thank you very much to all the colleagues who have come personally here in spite of a rainy day in Mumbai and also those who have joined into the telecon.

So before we start the presentation and of course the most important will be a question-and-answer, there is a small presentation of Bosch parent on how we are transforming ourselves into being a connected company worldwide. So first the video and then the presentation.

(Video 00:36-4:10)

So colleagues, I would like to tell you why we showed this movie to you. Many of us do not know how Bosch has transformed over the years into a completely IoT connected company. We no longer provide just products and services, we give holistic business solutions, not just our parent but also in India and later I will take you through a bit of the IT Conclave that we did two weeks ago in Delhi and share with you some details also on that. So today you can see the agenda. We will give a little bit of the Bosch Group Overview, Global Mobility Trends, Changing Landscape in India. India happens to be today the world's fastest landscape change happening in mobility both in legislative as well as in non-legislative situations. Emission norms have always been something of interest to all of us that recent pronouncements by the Government of India as well as NITI AYOG on Electrification are also important points to consider and finally, we will end with Connected Mobility. So we will have question-answer after this presentation. My intention to leave with you some important key messages rather than just the numbers.

So our parent is 131-years old. It is the largest private limited company in the world with €73 billion turnover, this fact related to approximately Rs. 5,20,000 crores. Mobility Business Solutions which is 44 billion accounts for 60% of the turnover. Now, if you look at India, the Bosch Group of 11 companies, we are 85% on Mobility. If you look at the listed company, we are of 85%. Our parent is 60%. Industrial technology 6.3 million, Consumer Goods 17.7 million and energy at 5.2 million. In India, we are lucky to have all the divisions, all the business sectors and one more. We have a sister company called Robert Bosch Engineering and Business Solutions Limited which provides for software for India and the world where out of 31,000 employees, around 20,000 employees work here. So Bosch Group 131-years young, financially independent, 73 billion, still mainly Mobility Solutions and very deeply IoT and Connected. The Bosch Group launched in September last year the IoT Cloud. Currently, 65% of the Bosch Group's products and services are IP-enabled. By 2020, 100% of Bosch Group's products and services will be IP-enabled.

The revenue of the group comes from different regions – Asia Pacific on the extreme right constitutes 28% of the total revenue of 73 billion, amounting to 20.8%, is the fastest growing region in the world. Our parent of course has strong roots in Europe which still has 53% of its turnover or around 39 billion. South America is a relatively weak market, currently not running negatively but on a low

base. North America still around with 2%. There was a slight weakening in North America this year, growth in Bosch about 12.5 billion.

So a short point, main message: Asia Pacific being pretty big. Out of this 20 billion, approximately 2.5 billion comes from India of which 1.5 billion comes from listed company. In India, we have 11 legal entities. The Bosch Limited which was incorporated some 65-years ago. Of course, we came to Kolkata in 1922. That means in another few years, we will be 100-years of Bosch in India. 18 manufacturing plants, 4,000 sales outlets, 31,000 associates, 1,500 suppliers and very deeply embedded in India.

Why I am talking of Bosch in India is because the legal entity which is the publicly listed company is the only public listed company in the Bosch Group worldwide. We have a very strong connection with our other ten companies because we have seamless working in terms of transfer of leadership, products, goods, business solutions and we give one face at the end of the day to our customers including Mobility. So it is a very seamless working that we do giving business solutions finally and therefore it is important to understand Bosch Limited but also Bosch in India for Bosch Limited.

If you take Bosch India in the last 5-6-years, we have spent on CAPEX, just to give an example, anywhere between 650 crores as the minimum up to 1,000 plus crores and 80% approximately of this comes from the listed company. We have not looked at bad years or good years in India. We have systematically invested for the future. Though a listed company, we do not get driven by quarterly results. We focus on more on trends and requirements of market and therefore you can see a lot of solution of new facilities, new locations including new products, services and more importantly, business solutions. So our turnover for Bosch Limited with 9,000 associates is around 10,180 crores. But this was after the carve out of stuff and generators which we indicated to you last year.

So this is Bosch Limited. What is unique about the Bosch Group and therefore also India is our parent which is approximately Rs. 5,20,000 crores of turnover, our founder gave away 92% of his wealth to the Robert Bosch Stiftung or the trust. So the trust owns the company while it does not drive the company. The company is driven by independent executive board who joins the company at a trainee level and goes up to become on the board of management as also in India. The voting rights however is different where the family which owns 7% does not interfere in the running of the company and there is a four eye principle between Bosch GmbH, this is the largest private limited company whereas the trust owns. So after 8-10% spend over many-many years practically by Robert Bosch GmbH on CAPEX, 8-10 also on R&D by the way Bosch has out of its 4 lakh employees, 53,000 people working on R&D, out of which 18,500 work out of India. India is the second largest R&D center in the world after Germany or the largest outside Germany. Bosch Limited of course the only public listed company in the world with 70% owned by the company and 30% owned by others. So it is a very unique shareholding pattern including the delta between our parent and thing. By the way,

after the CAPEX and R&D, all amounts are then given to the trust because the founder had set in mind that business cannot be run without focusing on society…something at the end I will talk about how India does, interventions of deep nature with society.

So this is a very important slide. This shows the power crane scenario and mobility scenario in the world for the period 2015-2030. The bar on the grey shows you the ICE and the top light green shows pure EV. If you look at the CAGR we have assumed CAGR of 1.7%. This is after a lot of looking at the past including looking at the future for the world mobility to grow. Then if you look at the various colors, you have from pure ICE to diesel, to pure fuel injection to gasoline direct injection CNG, hybrid electric vehicles to plug-in hybrid electric vehicles and finally the light green acts as pure EV. Now, please look at 2030 on the two scenarios. On the scenario on the base case which is supposed to be by our standard the realistic case we assume that ICE will still remain very dominant in 2030 with 90% share and here you can see we have considered ICE about different parts of ICE including hybridization to be a part of ICE and 90% of this. If you look at the dominant electro mobility case, which is called the eMobility case, predominantly driven by the developed countries, not the developing, it is 82%.

Summary is ICE we expect if we take out the clouds and the myths which still remain extremely dominant. Second, it could be anywhere between 90% to 82%. Third, this is a mixed bag of the world. If you take India as a percentage it is likely 82%, it is most likely to be more than that. So this is what we have considered after considering all aspects on electrification, affordability, breakthrough, technology available, providers, everything. We also expect hybridization to have within the changes happening in ICE to have also a gain or momentum specially to meet emission norms and safety requirements.

Regulatory market impulses give you a feeling that while we are sitting in India, we are still called a emerging country. This is perhaps the fastest changes in the world on regulatory changes which are happening in front of our eyes. No other country has seen such changes in such a short time and I will give you some data to prove that. In Germany, which is considered to be perhaps even the father of automobile, if you look at the time Germany has taken to go from one emission norm to the other, example, Euro IV to Euro IV, Euro V to Euro VI, it is between four and five years, the minimum period is four years. That means you take eight years to go from Euro IV to Euro VI. India, we are going from BS IV, more or less equivalent with slight changes to Euro IV too. BS VI in three years officially. 1st April 2017 to 1st April 2020. If you take the announcement and pronouncement by the Supreme Court on 29th March which changes the lot of things to say BS IV vehicles have to be sold with effect from1st of April and no BS III. The OEMs have to be prepared to do SOP with effect from October 2019 and not 1st April 2020. So actually we have 2.5-years at best, theoretically 3-years to move and leapfrog from Euro IV to Euro VI or BS IV to BS VI, fastest in the world and we in Bosch have given the information to all our stakeholders including government that if you need the fuel with

10 ppm Sulphur, down from 50 ppm to 10 ppm, you need to have two years before the actual release of the vehicles of the road for validation test. So you are talking of a very short time.

Now, we are walking the journey with our customers and OEMs on a holistic business solutions other than products. What I call as from womb to tomb conception to right up to beyond SOPs in giving a holistic business solution. Also many customers we believe will focus on the vital few which is the runners for the engines because you cannot get them to working on also the exhaust and things like that. So a very tight schedule, the fastest in the world.

CAFE and fuel consumption regulations have also been very stringent and that is a second point on CO2 requirements. Again, very-very fast.

Crash standards which in India you know that compact car some of them hold it that we did when tested on frontal or side have also got huge importance including starting for all models from 2019. Safety standards for which CV or commercial vehicles ABS which was introduced in 2015 was very quickly followed as you know also for passenger cars then two wheelers greater than 125 cc by 2018.

Finally, on Electrification which is three months before none of us thought or talked about it. You have seen a slew of statements from the energy minister, the government, including Niti Aayog stating that it wants to look at the mobility case for passenger cars by 2030.

So a short point, very high level of VUCA, very high level of changes in the regulatory market including market impulsive. Fastest perhaps in the world.

The emission legislation change in 2017 to 2020. Now with 29th March is very clear, you cannot sell vehicles of the past in the future even by a day and the automotive industry has taken that very seriously specially with the huge opening balance on 1st April for passenger cars, two wheelers we know what discount it were sold including heavy commercial vehicles is going to be a disruption for all the points that I have mentioned right up to heavy commercial vehicles, light commercial vehicles, pas cars and two wheelers. Two wheelers as you know will move from gasoline from carburetors into for example the electronic fuel injection systems. Then if you look at tractors off-highway you have for off-highway the CPCB norms and for the tractors you have the norms. So while that is going to be later, we also see a lot of changes in tractors for example, today the whole focus is not just efficiency but also on electronics coming in and we see that again with a lag of a few years again there would be changes in the long.

So a short point, across the whole industry huge disruption mainly of course in the mobility areas outside of highways and bridges and then in BS IV to BS VI, massive disruptive change. Why and what it contains in the later slide.

This is a very important slide and it is a fact-based slide. Euro IV to Euro V and that too Western Europe from 2005 to 2009 Euro V to Euro VI from 2009 to 2014, Euro VI to RT real pricing emissions from 2014 to 2017. Now, India had a gap of technology between whichever way you want to look at it and if you look at Euro VI 12-years, if you look at Euro VI with RT 15-years gap with the advanced or developed countries. Today, the intention between 2014 and 2020 are delta gap with the advanced countries is only going to be 6-years. So this is a very-very important slide to say leapfrogging of technology to catch up on the delta which was between 12 to 15-years to less than 6-years on technology backlog. Very important.

What does ICE technology contains? Many of us look at ICE as fuel injection equipment. We do not look at it that way. Today a car, a vehicle, mobility, not only has improvements and changes on fuel injection equipment, but you have changes, example, through hybridization which is electrified, software function and algorithms play a very important role. You will hear more and more about from us on ECUs which also in India we manufacture and the air optimization system will play a very important role along with the exhaust gas treatment which is a completely new element for the vehicles which are coming in, of course, you have different EGT systems for passenger cars, for heavy commercial vehicles and even for light commercial vehicles. Drive train itself is being redefined and very important in a quite but a strong manner vehicles are becoming penetrated to the outside world, for example, Bosch, we have many used cases where we show in a very simplified way including in India how you can be connected to your home from the vehicle. The vehicle has become the third living space. It is not just automotive car. So you can be connected to your work, you can be connected to your home and you can do things from your vehicle to work as a living space and this will become in India very-very common like it is becoming in different parts. So all these by the way Bosch, our parent, has used cases. These are not just theory.

Along with that, you have ecosystem to manage. The ecosystem is about the product strategy. We do not give just products to our customers and OEMs and stakeholders. We give our own business solutions. We look at optimization of our entire resource management including our changes in our leadership style, competency management because the ecosystem is changing. Bosch India for example has many-many used cases on manufacturing strategy on Industry 4.0. A couple of months ago, we shared with the Ministry of Heavy Industries of that on what we call as “Demystifying Industry 4.0.” MSME can do Industry 4.0. It is not multinationals and big companies. So connectivity is not restricted to a elite rich. It is reaching everyone on affordable basis including example, Industry 4.0.

Purchasing: We are doing a lot of changes in our purchasing including digitization and aftermarket will also undergo a change where we will not only have to service our conventional aftermarket, example, Bosch diesel services but also our new generation and the future generation products which

will have a different type of aftermarket. Digital, you have to deal with electronics, ECUs, longer period to come to the aftermarket for servicing and so aftermarket will also undergo changes.

Lastly, just to give an example between BS III to BS IV and BS IV and BS VI on the right side you can see. It requires 3 to 5x extra R&D efforts for the shortest time periods of leapfrogging between BS IV to BS VI. This also we must appreciate and understand.

Electrification: I am not going to read out. This is there in your slides and you can read it.

There have been lot of pronouncements and announcements on both policy as well as intent and content by the government. So we welcome this at Bosch. We believe that changes are always including disruptive changes are good for society as well as for companies and all of us to transform. Our parent company started working on electrification many years ago as we did for matter of connectivity and IoT. You will be happy to note that our parent launched the Bosch IoT Cloud in September last year. So we are on a cloud platform for own which we can use not only for our products but also for our customers and stakeholders. So we believe that Bosch again it is very well prepared on electrification. As we talk to you, we have also been working on two-wheeler electrification as well as on three wheeler. Many of them in public domain knowledge with many of the well-known OEMs.

So if you look at Electrification and Bosch Solutions, we have a place in the sun in all areas right from the regenerative braking systems to not just the mild hybrid in India what is called but the normal hybrid of 48 volts which we believe will become the norm as well as the thermal management systems to the e-drives and EPs. The video that you saw on the cycle has transformed Western Europe and Europe in particular but also America. If you look in Germany today, 70-year-old people are cycling in the mountains because it has a e-drive given by Bosch. Bosch has the highest market share within e-bikes. So very interesting, it is not just for vehicles of what we do but also even for simple things like cycles.

Charging Solutions: Bosch today has a comprehensive charging solution system across Singapore where you can seamlessly charge and in India one of the challenges going to be battery swapping, charging and infrastructure. Battery for EVs, we do not yet manufacture. Bosch will by end of the year take a decision apparent on battery manufacture provided we have USPs. Currently, we outsource. We believe that is the better option. But if you take USPs, it will consider areas of safety. You need to shut down a battery within micro seconds in terms of high speed crash, in terms of the cell shutting down, you need to look at range for a battery, you need to look at a rate of a battery and finally you need to look at technology which will give you disruptive and affordable technology. So Bosch will look into all these areas while deciding to go into battery manufacturing.

We are a systems integrator. Our products, services and solutions allow us with our knowledge including for India to give affordable, innovative creative systems integration solution. We have a very strong advanced research and engineering base. I told you, our parent for decades between 8% and 10% on R&D, 53,00 people work on R&D Bosch worldwide out of the 4 lakh employees and in India we are the largest outside Germany with 18,500, serving India but also the world.

eScooter Sharing: We believe mobility will change. That 1.7% also include has aspect of the kicker. Mobility will get more and more share. How many of us thought five years ago that Uber and Ola will play such important role in our lives and more important in our next generation lives who by design do not aspire to own just the vehicle even if we can afford to but take shared mobility for other reasons and aspirations have changes. So, we believe also that sharing will take place. To give a small example, look at the world in the future and maybe even India, electrified, shared, autonomous, taxis it may sound frightening but it could be something which will happen starting with emerged countries and later even in India. So we in Bosch are very well prepared to look at our traditional strengths where we believe ICE is going to be there but also the new strengths which we have been working on quietly for many-many years.

So in summary, we welcome the market forces of disruptive technology change and we can see it in India in a very quiet way. Those who come from Europe are very pleasantly surprised and shocked, how fast things are quietly changing in India. We believe very strongly because over 65-years of existence or I will say 65-years young, our parent is 131-years young that we believe that we should add value and look at the entire value chain and we take a decision of what stays in the limited and listed company, what stays in-sourced and what stays outsource because we do with careful consideration in intensive way. We also believe that the world will be more and more those who can provide systems solutions. That is why we have gone very strongly into the connected world, into IoT and mixing out hardware, software, electronics to give a seamless experience including in India. We want to continue remaining one of the biggest automotive as well as mobility suppliers and in India of course with a strong local footprint we want to remain in a pole position.

To summarize, before I hand over for question-and-answer, there are many challenges. We are aware that we cannot be the best in everything but our company has certain unique things – First, it is a very ethical and value-based company. This you cannot just buy or just put it. It is a culture. Second, it has very strong governance policies which systems processes ethics value overtake individual requirements. Third, we believe very strongly being in India for a long time we try to get the inputs and work seamlessly with the parent but also do lot of globalization and regional needs of what we do. Fourth, this company though it is a listed company, it is not driven by quarterly results. So we do not get many times financial analysis including you all why it go down by this much and why did the cost go up by that much. We do not get euphoria if it is good or bad. We look more as long-term trends and we will continue to invest for the future. We have done and we believe that in this world

of disruptive change it gives us a chance to also reinvent ourselves and learn from all our stakeholders including our competitors.

I will now share with you just a glimpse of the connected mobility video. Details of this video we will share for you because two weeks ago we did a IoT Conclave, because we asked the question to ourselves, "Does Bosch know what Bosch knowns?" It would be Bosch in India. They said first we need to not only do that but we need to tell outside world a little bit because we are a bit of shy company and we did that. It was very surprising that the 400-odd audience who came said that we were never aware that Bosch is so much into connected world in India and IoT. We will share this. Details of this especially on Mobility, our colleagues will share you a link which you can go through. As you can see here, we are connected not only in mobility but from parking assistance to electric driving. Autonomous by the way is happening already in Germany, and automated we believe with intelligent solutions we can do, and mobility is connected as I said as a third living space to the workplace as well as to. All these examples we will share with you through a link on the "Bosch IoT Conference." A small video of just 1.5-minutes.

Video (35:07-36:35)

So that was a quick glimpse colleagues of just a small teaser here. We shared connected mobility solutions, we shared connected agriculture, I will give you a small example. In Mahindra Vendor Conference, we recently got the Bosch Innovation Award from Mahindra for what they call as DigiSense. DigiSense is the intelligence box which puts into a tractor which gives you geofencing, face, frac, ability on a remote basis to know how the tractor being run, the fuel efficiency, the engine condition, predictive maintenance and much-much more. A short point. All of you will know that tractors are not just sold to farmers but also even rented out. So 5,000 tractors in the last just few months are installed with the DigiSense. Mahindra's 6,50,000 tractors which get sold, produced and sell 2,50,000 tractors. We are working with all the OEMs in tractors. We believe that more and more such agri-based solutions, mobility solutions, retail solutions, environment solutions and smart and connected solutions will come to play. So Bosch is transforming itself both at the legal entity level as well as 11 legal entities that we have to give seamless experiences to our end customers on a proactive basis. So, this was just a glimpse. We will share the link of the IoT and the connected services and solutions that Bosch provides and used cases, example, 4.0, we do it in our plants. So when we talked with the Ministry of Heavy Industries, we shared with them life and used cases in our plants to demystify Industry 4.0.

So over to question-and-answer. At the end of the question-and-answer, we will share with you something also which is very important for very ethical and a value based company which is social engagement and what is it that we try to do for our country to make sustainable changes because our founder had believed very strongly on values as well as social engagement. Open for question-and-

answer both in the telecon as well as for all the colleagues here are present and thank you for coming. We have Dr. Christian Teich , my colleague, who is heading the R&D for Diesel, also Mr. Karthik, the Joint CFO and I do the CEO and the CFO responsibility.

Moderator: Thank you. Ladies and gentlemen we will now begin the Question-and-Answer Session.

Soumitra Bhattacharya: There is no question from the telecon right now. Over to the colleagues who are physically present here please. Please give your name and the company you represent and then start.

Hardik Doshi: This is Hardik Doshi from First Voyager. One thing I want to understand mainly unlisted entities within Bosch as well as listed entities can you just describe briefly what is the broad philosophy what new business accounts and what new trend that happens, how did you say what comes into the listed entity and unlisted entity?

Soumitra Bhattacharya: We give it a very careful thought on what makes sense. Naturally the details of what goes internally I cannot share but we give it a very careful thought, we look at synergies. If you look at a publicly listed company, take for example, eight years ago when gasoline within the powertrain, it was not very-very big. But today gasoline plays a very important role. If you look at our parent, diesel and gasoline contribute to €20 billion of the €44 billion…I showed you the €73 billion. Diesel and gasoline play €20 billion out of the €43 billion. If you take India for example in the listed company, while diesel was very-very strong and continues to be strong, we also grew leaps and bounds on gasoline on powertrain. I mentioned to you that when electrification comes, we will take a call of how we take it but again in a very intelligent and very thoughtful manner. So if I summarize, two things we do – First, we look at what makes sense. Second, we give a seamless experience to the customer. Third, the legal entity which is the only publicly listed company in the world is a very bright entity and we will still as we have done in the past continue to take good care of this listed entity beyond this I cannot give you….

Hardik Doshi: The other question I had is the slide that you shared and you mentioned that by 2030 you expect commercial engine to be 80% to 90% of the total vehicles which is I guess quite different from a lot of other industry forecasts and even for the government talking about even 100% electric can you please elaborate on it a bit more why it 80% to 90% commercial?

Soumitra Bhattacharya: Look, first of all, one has to understand on what our basis including the disruption and we need to bifurcate emerged countries from emerging countries. Now, this gives you a glimpse of the world has seen by Bosch. We are not trying to say someone is right or wrong. This is just our view. If you look at the picture here which we have indicated, we have said predominantly ICE and ICE meaning is pure ICE, diesel, hot-fuel injection, gasoline, CAG, hybrid plugging, and plug-in hybrid. Pure electrification is indicated by the light green. So this 82% is up to here. The 90% is up to here for

2030. So we believe keeping in mind the reality of what is into 2015 currently what we see by 2020 including the aspect that while electrification is bound to come and we accepted and we welcome it. What is the percentage of electrification on ICE from pure ICE do other areas of ICE? We believe the scenario at base case which we got a realistic case at 90%. ICE remaining dominant and we feel on worse case ICE. It is a question of best case pure eMobility to be 82%. Now, this is with our calculations based on past data, then we look at battery status, we look at disruptions but if you ask this question to 10 different people you will get 10 different answers. Next I talked to Niti Aayog. We respect what the government is doing. I think it is a very-very important move. But if you look at electrification of India by 2030 with pure EV across we have to answer several questions. What will be the affordability of ICE which is becoming better and better with more products and services and solutions as compared to the EV solutions. We have to ask our infrastructure solutions, we have to look at battery model, we have to look at charging, we have to look at battery technology. So summary I think it is a very good intention by the government and we respect it. Currently, this is the scenario that Bosch sees worldwide with a lot of homework done based on the parameters both on emerging and emerged markets.

Hardik Doshi: Just one follow-up; I guess in the common rail and a lot of the diesel and gasoline Bosch has very strong presence globally and especially in India. Can you talk a bit about globally how is Bosch's position on the electric vehicles front in terms of may be market share or dominance that we have already have out there?

Soumitra Bhattacharya: First of all you would respect it that we do not give market share. Our parent Robert Bosch GmbH with its various division has been working on electrification for quite a few years, not today. We as a company always believe that we are not competitors to OEMs. We go the journey with our OEMs as business solutions provider and as a systems integrator. So this slide for those in the telecon I am referring to Slide #19 now which is 'Bosch Solutions for Electrification.' We are in all these areas and I mentioned to you very clearly that other than the manufacture of the battery for EVs and where my colleague, Dr. Teich has already mentioned the previous case that even for the regeneration for the breaking systems here, we are there in the battery systems. So we are present across the area as a system solution provider and in India we will also be, and in case of two wheelers and three wheelers, this is again public domain knowledge information we are already there with quite a few respected OEMs. So in summary, we will not compete with OEMs because someone asked me the break, are you going to compete with Tesla. I said no, we have never done it, we would not. Second, will we walk the journey in a holistic way? Answer is 'Yes'. We have been working on this for quite a few years including in India we are giving solutions for two wheelers as well as three wheelers. Market shares we do not discuss including for powertrain or UV.

Pradeep: If I look at the powertrain scenario chart, I see that diesel share does not increase at all from 2015 to 2030 . How is the listed entity position to take care of this? Question #2 is you talked about connected

world Can you just give us some examples on the PV side as to what Bosch is really doing in that front, when do you see this mega trend because I think it is fairly capable, relative from the other parts of ecosystem will be very fast?

Soumitra Bhattacharya: Thank you, Pradeep. First on the diesel share and what happens to the listed company and India on diesel. You must understand that while we have a very strong footprint on diesel, we have a increasingly strong footprint on gasoline though relative to diesel a later entrant. So we are pretty clear that we are there in whichever direction things move. Second, I will try to demystify diesel a little bit because sometimes it becomes emotional and a little bit of hype. Diesel consists of passenger cars but also consists of heavy commercial vehicles, we produce in India 3,70,000 of LCVs we produce about 5,60,000, of tractors we produce approximately 6,50,000 to 6,90,000 and also three wheelers and then of course you have off-highway and earth moving. So a short point is diesel is not restricted to only to passenger cars. Pas cars if you remember 10, 15-years ago, we had a single digit diesel percentage in India which over the last 10-years moved to a peak of 48% as compared to gasoline, moved down to 40% for a long time, right now at 36% and we estimate maybe over the next 6-years it will go to around 26%. So on increasing pas car, 3.67 million on a CAGR of let us say 7% per year on passenger cars, diesel will still continue to play a dominant role but not increase at the rate it was increasing. So first you have to understand that. The other areas, diesel will play a very dominant role because it is not going to suddenly change heavy commercial vehicles with trucks from 12 tonnes to 40 tonnes becoming electrified and you have to understand affordability… road carriers and so on and so forth. So whether it is LCV which will still remain diesel dominant with partial electrification or whether it is three wheelers which would exist by partly diesel or whether it is tractors only diesel. Diesel will still play important role. Within diesel, ICE along with diesel and gasoline will still play important role. So in summary, I have to demystify this thought process that a number will be a little provocative, it has got to be a shift, we welcome the shift, but we are prepared for it. That is on first. Connected -- You are absolutely right on the connected. India has proven wrong through the smartphone and the apps and that is uneducated Indians can work with mobility or can work with connected world with the education is no longer a criteria to remain connected. So we in India are very clear, we would like to give innovative solutions for everyone. That is why I said please go through our link which we will send you, which will give you granular details at a proficient level, to be honest because then you have to go into details or we invite you to one for IT Conclave to see the used cases of Bosch Mobility Connected. Mobility is only one platform. We have connected agriculture space, we have connected retail, connected environment, connected manufacturing and connected mobility. We have many-many used cases where the car is connected to the outside world. Germany, the current used cases are already you can do a lot of things from the car to your home right up to your kitchen including the Bosch home appliances. In case of office space, you can completely do many-many issues relating to your office from your thing. Of course, Germany, just you saw the video, if you look at autonomous driving. Then if you look at connectivity, that is why I am saying it is like a third living space. As we speak, trails have been done in Germany on autonomous driving.

So we are doing things in a quiet way. We do not perhaps publicize it too much. India of course will take time on autonomous but automated answer is yes. We have several examples of automated including intelligent park assist Germany as we speak I think we will have automated vallet parking, that means car gets picked up in a parking lot and is automatically and autonomously driven to a slot of multi-storey car parking area. Will things in connected come to India? Very fast like the smartphone and apps. We are prepared for it in India. Used case, you will see through the link which we send.

Preeti: This is Preeti from UTI. In BS IV just restricting this discussion to BSVI . Also in slide #13, you said you expected Europe in 2014. So India will be going in 2020. So to that extent you have around 6-years of head start for Bosch say global or India as compared to let us say a pure Indian component player. So what are the benefits you would get because you have a parent Bosch Global we did in last 3, 4-years. So will be the lesser CAPEX intensity or lesser R&D investment, what are the advantages we can see because we have this seamless interaction between Bosch Global and Bosch India?

Soumitra Bhattacharya: I will answer the second part of the question and then hand over to Dr. Teich , my colleague on the first part. Look, the CAPEX is dependent on our story line on what we have invested for the future. So I mentioned the last six years we have done anywhere between say Rs.650 crores to Rs.1,000 crores on Bosch Group in India and within that 80% approximately goes from the listed company. So we are systematically spending on requirements for the future because in India its farsighted not quarter-to-quarter. We will continue doing that based on need. Now, future trends in terms of. 2017-18 fiscal year we talk of Rs.800 crores which 50% goes to R&D. So we will continue to invest on R&D. The requirement is dependent purely on year and how well we are prepared and then what is the market situation. So there are many parameters. But if I answer the second question in summary, Bosch invests like its parent well in advance and set things up well in advance to be able to continue to give seamless business solutions and part of that is required for CAPEX for its customers. Now, on the first part of the question, my colleague, Dr. Christian Teich is also responsible for diesel R&D with more than 400 engineers working with him.

Dr. Christian Teich : To answer your question, I would start with an interpretation of the slide from my perspective. What I like here is that there is a disruptive change. We headed that block from regulation point of view and regulation unfortunately we are living in a world, nobody spends voluntarily money into something to prevent, is also need finding the technology in behind. So from 12 to 15-years backlog, now to less than 6-years or in a next announcement of BS VI to enforcement of BS VI and here in all segments at one point in time that has never happened in the world before I think it was highlighted it already that is the situation were those who are our customers like OEMs that are used to spend on, but then I have to take also into account, otherwise that would not be clearly conveyed. Those colleagues would need somebody who support. Then you ask for USPs. We are spending of 8% to 10% in a year we have economic independence with our parent company, spending a lot in technology

development and technology is our passion and we are offering system solution. If you are given the chance being in a situation where you are facing technology challenge where the holistic optimization of the whole mobility is required to whom would you be let us say a product or who should supply to you that would be definitely those who are able to provide complete solution of who have solutions already in their portfolio and up to the market. We see our strong USP in providing holistic solution and here we see especially chances to provide best value proposition at highest performance. Unfortunately, sometimes, I am exposed to a question, what is the right exhaustive treatment solution. Those who read some books now there will be a lot of value shifting into exhaust. Yes, correct. But if you simply answer this question, why take the following solution, and you may not have the optimum taking out and the cost of the mobility will increase significantly. Here we went also into business models where market leading catalytic suppliers and providing holistic approaches including the exhaustive treatment is one of our USP.

Soumitra Bhattacharya: Christian, if I further to add to what you were saying and that I think it is a very intelligent question from Preeti, of India, it looks very surprising for the western world. India is extremely cost-efficient in terms of demanding cost efficiency on affordability but also is extremely demanding on quality being given and latest trends becoming packed into where we ourselves have decided to go up the value chain. Look at the slide. Those who are in the telecon, this is slide #12. You need a regulatory impulse to statutorily implement things like emission norms, crash standards, safety standards. But after the regulatory thrust or impulse, or pronouncement, people go to showrooms to buy and ask not only how much does it give on fuel but does it have safety norms, does it have APS, does it have airbag. So Indian customers are no longer in the mode of Maruti 800 which got introduced but are looking more and more after regulatory impulse/statutory requirements, example, Slide #12 will ask for safety standards or crash standards all in an affordable price. So our point from Bosch is we have been present in India for 65-years. We understand intelligent localization, optimization of product and processes and systems, insourcing/outsourcing… you ask this question between legal entity and the public listed company. We give a seamless experience to our customers. While very clearly focusing and treasuring our public listed company as you see over the years. So, we believe this is an opportunity for Bosch but also our competitors and the ecosystem and we welcome it.

Preeti: In the same context, that does also mean our competitors or peers at a broader level would also be future-ready for Indian markets. So would you see the scenario of your views on market share loss if it is virtually in the current environment, so going forward three years down the line, is it the cost leadership which could have thrive in that environment, what are your views,

Soumitra Bhattacharya: Look, Preeti, I think any forward-looking company and I trust we are in a competition and open marketplace is the best marketplace for all organizations. So we welcome competition and we respect competition. We have been learning, unlearning as well as changing in very deep humility as well as our ability to take lessons from the past. I will give you a small example. Inline box which we started

manufacturing 65-years ago, today we do a record of the highest ever in the last 65-years. We produce that from four lines. Five years ago we were producing the same volume from nine lines. So nine lines have been reduced to four lines. Finally, will get reduced to three lines. Now, our focus is to transform ourselves as a public listed company but also the other legal companies. So on one hand, competition is absolutely welcome and open marketplace is absolutely the right thing for any progressive company to invite and we are invited and we are respectful. Second, it gives us a chance to also transform based on market needs, example, hybridization, electrification and gasoline changes that we have done. Finally, it gives us a chance to tighten our belts, improve our processes and look at it in holistic manner. About market share, very happy for you to say that we are monopoly, I do not think we are monopoly and the monopoly in the world is far away from that. We have different types of market share. We would like to keep our market share but we are absolutely okay as and when if changes happen and how we bounce back, how we strategize and we are constantly looking into the future and trying to make changes not on a quarterly basis, but as we showed you in electrification and hybridization and also in the bar. We will continue that journey... it is a journey.

Piyush: This is Piyush. A few questions. First of all, can you share a light on gasoline direct injection, how much of impact in emission change and then how do you see the evolution of that and when do you see more adoption going forward?

Soumitra Bhattacharya: I will hand over to Christian but before that just a couple of comments. Both fuel injection and on gasoline direct injection, Bosch as a company and our parent is pretty strong, and there are different categories for this if you take on the four wheeler and the passenger cars, you have the C and D category, and as you move up you go to GDI but before I hand over to Christian, Bosch has a presence in both, we are prepared with our menu card… and I would leave it now to Christian to look at the Indian market on GDI and BFI.

Dr. Christian Teich : Thanks for the good question. Technology wise, it is not completely defined and that is good also as already you emphasize we are prepared for both solutions. Historic wise, engine in India are a little I would say underpowered and like volume smaller. So logically there is a typical approach, why are you doing GDI is to reduce, to improve to use new consumption, you go from a large displacement to a small displacement by having a turbocharger and then adding a GDI fuel injection. That is not absolutely necessary in India. We see it also in the discussions with the customers that there are different approaches existing. What is clear is there will be an era of turbochargers for the gasoline engine so to improve fuel consumption, cheap maybe the displacement volume but turbocharger in and finally how much share PFI or GDI will come, we cannot answer, there are whole solutions in the market.

Soumitra Bhattacharya: It is very important to understand smaller does not necessarily means worse. Actually be it smaller, still more efficient and still having more torque because technology has changed so much including turbocharging that a 2-litre platform today in Europe has become the base, high powered and with the talk as well as horsepower which are unbelievable compared to the past.

Piyush: Would it be fair to say that light weighting of the vehicle of the driver

Dr. Christian Teich : Look, the main driver of light would be CO2 reduction and unfortunately it is slow, but it is not too good, I am not in the shoes of OEM but the little system understanding that we have is we have to invest a lot in light weight to get a certain kind of CO2 advantage. They are to say **carefully simpler as** the engine at the hybridization side that can be implemented faster, then complete let us say light weight approach. Finally, if you see like with €95 program that you are filling in U2, then you may think about different than I am emphasizing here, but currently we do not see the trends to that extent. For sure we will come lesser lighter but not extremely light weight carbon or something like that.

Soumitra Bhattacharya: Actually, it is very interesting. I notice the weight in the last 5-years in Europe, it is not a major change. People more look towards the mixed fleet to meet this requirement. In the mixed fleet, the people have also gone into standardization for example under the 2-liter and today BMW in the last 5-years have gone into even less than 2-liter engine. So a short point, people are looking at fleet management to meet the kilometer and not necessarily light weight.

By the way, you can ask questions also beyond technology, also include organization, any other issues. So you are not restricted to ask any question.

Participant: You pointed out that going from BS IV to BS VI being a very small time which India is trying to do. I suppose the same is truth for even the company like Bosch that you have to make a transition. I am wondering how the company is going to be adapting to this manufacturing perspective, if you can just give some share light on that? And then does that mean in 2020 you have a little bit more reported content than what you are upcoming?

Soumitra Bhattacharya: It is a very good question again. I of course will not comment and respect of course as I mentioned our competitors…competition is welcome. But Bosch India is very well prepared for this transition as we have been for BS III to BS IV. So BS IV to BS VI if I recap, Germany took four years for each leap which means from Euro IV to Euro V, Euro V to Euro VI. We in India taking officially three years. Within three years I mentioned in reality it would be less than two-and-a-half-years. I also mentioned that in our view for 50 ppm sulphur to go to 10 ppm sulphur on BS VI requires prior to SOP two years for validation. So there are several challenges. Bosch India is well prepared …now I

refer to Slide #16 because we have a holistic strategy in place from people, competency, manufacturing. So for each of these products processes, we have put in place people, plants, for example, we mentioned in the concall that we are shifting our Bengalore plant into a new location called Bidadi…Bidadi is on the way to Mysore where we have got 100 acres locked. The first phase is already complete. Lot of products, processes, people have already moved in which is the ground-breaking for the second phase and by 2019-mid our entire Adugodi, our headquarters will become a plant-free environment the entire 35-acres and becoming a most intelligent smart campus within Bengaluru city. So we have already put these processes in place. Of course, there are challenges. But we are trying to focus on each of these. Coming to Purchasing: We do intelligent localization. Again, this is an asked question. We do not go into jumping into localization just for localizing. If we see the requirement based on market, care, acquisition and how the market is behaving, we go into localization and our conventional products have the localization factor of maybe even 95, 98, our common rails have anywhere between 50% to 70% and our new generation will follow in terms of localization and what we need to do. We also have decided on intelligent outsourcing both with our sister companies to give a seamless experience to the customer and with our outsource partner. Finally, we give to the customer a seamless business solution. He/she does not have to worry about what is behind it. So we give one full solution.

Kaushal Maroo: Kaushal Maroo from DSP BlackRock. My question is in the current Tesla and Chevy Volt ecosystem both within the car and ecosystem, what are the names of the parts which Bosch as a group supply right now? Just trying to understand have others taken a lead in gaining market share in this category over the last?

Soumitra Bhattacharya: We do not individually give parts. You have to go to public domain knowledge, download and see. We work with all OEMs including electrification, I shared with you Slide #19, where our parent but also in India we have an ability to give solutions in each of these areas, but we do not indicate what is the content or what we have directly given customer wise.

Kaushal Maroo: Within that, not a lot is shared from Bosch side on what they are doing. Is it fair to say that there is a healthy share of business in this entire ecosystem even right now in the EV space for you?

Soumitra Bhattacharya: We are in the ecosystem and if we want to remain in the ecosystem naturally we want to remain a very healthy share. So I will emphatically announce that Bosch believes the electrification is there to come. Question is when and how, in which parts of the world. We are fully prepared for it both at the parent and I even went to the extent of indicating that in two wheelers and in three wheelers already we have got used cases with our customers. So we very strongly believe that this is very important third leg electrification including hybridization and electrification which we give and we are well prepared for it. And I even mentioned that the only area which by design we have not yet gone into is the battery manufacturing which I also mentioned that our parent will take a call by the end of the

year but based on Bosch USB. It is no use to get into something for getting into it. There has to be a meaning and a story line.

Participant: Just one follow-up. You mentioned that we have consistently supplied BS III to BS IV transition with the recent emission changeover. There is a lot of feedback from the OEMs that on the CV side there is shortage of power. Can you just explain what cause that issue and how can that be resolved and I guess which are now people working in that?

Soumitra Bhattacharya: In the IoT Conference, I made it very clear that Bosch is not doing disruption to the automotive market in India. You have to understand in the context of what this is being discussed. That entire automotive industry underwent after 29th of March a very big disruptive change. By SIAM standards, if you take including two wheelers and four wheelers, 1,20,000 vehicles what SIAM indicated were of BS III manufactured which spilled over to the BS IV date of 1st April. This included huge quantities of both pas cars but importantly on heavy commercial vehicles. So the market or the OEMs changed substantially and suddenly. So based on that the demand also changed. Based on that Bosch rechanged its strategy and gave. So summary is a) we are not disrupting the market; b) I made that very clear, this is a sort of breaking news question, but whatever in terms of massively increased requirements that is what is being committed and met by Bosch with its OEMs.

Himanshu: Hi, Himanshu here from DHFL Primerica. Let us say a few injection system exhaust there or turbochargers in the ecosystem for Indian management when we talk about electric vehicles. What components out of the things where you define would be the highest value additive and where the most complexity is there as of today, can you just give some idea on that?

Soumitra Bhattacharya: Christian, do you want to give a little bit of indication? But we are not giving numbers.

Dr. Christian Teich Just everybody is round the table now, it is from where your proposition point of view, for sure they are statutory and that is the reason why we are carefully looking into USPs whatever we do, we want to be what the USP in the market. On the charging for example, that those include the infra correction point of view, we are systems providers and this is linked to our IoT by Singapore, we are seeing ourselves into a supplier of able to provide for example connected solutions within and complete environment. This was also a big way. We have already EVs in the market. You can refer to launches in 2012 even when we compete in these with Bosch solutions in the market what is for sure from electrical mode point of view also high value. So indeed a big spread of component and share of value is over. Now there will be dominant places. If you want, I just highlighted that from value point of view definitely the battery of passenger cars overall globally you will see the charging solutions is a big-big topic is linked to the infrastructure where we are present and the retail excess which is eMotor we are already there with the products and have already complete solutions in the market of SOPs in 2012.

Soumitra Bhattacharya: I think along with this, Christian, we can also make a comment. The way both the world and India is looking, people are not looking just at systems integrator which we are, people are looking at solutions, people are looking at services and people are looking at connectivity and IoT and people are looking at the whole package. So Bosch has gone on this journey quite a few years ago. The reason for Bosch launching its own Cloud including IoT and connectivity of services is that today the demands of the customer are very different from a high-quality intention product. It is the ecosystem surrounding that the people are looking at.

Dinesh Balachandran: Hi, this is Dinesh Balachandran from SBI Mutual Fund. I had a question on aftermarket segment where the company is talking about further developing that. There I just want to understand first how does GST have a role to play in terms of having higher role for the company, how does it really affect the company?

Soumitra Bhattacharya: This question came up in the previous session too, so relatively easy to answer. GST first of all from our company as well as industry I think all of us welcome it. It is the biggest single reform which could create initial hiccups for everyone but will have lasting sustainable changes due to transparency, single tax rate including improvement on logistics and elimination and reduction of wastages, example, India has approximately 14% of the cost. Logistics could come down to 8% which is what are the emerging countries have. Second, we in Bosch have systematically not just for aftermarket, for our whole ecosystem have optimized and will further optimize our warehousing, our routes and as ethical companies quickly enforce that property law which we have proactively done including seamless credit and the last two years we have been preparing for GST in a very-very detail manner across all the 11 legal entities driven by Bosch Limited. So we do not see this in a negative way. We see as a positive. Initially, conscience is very clear. Anything good you introduce will also have a cut. I think that is the answer.

Dinesh Balachandran: But will the aftermarket sort of see better for the company since that you…?

Soumitra Bhattacharya: We see this as an opportunity and a chance. We do not see this as a problem. Of course, there are these issues on aspects of current inventory not just for us, for everyone for the initial. That is why I said, there is a initial hiccup will happen for everyone, could be a month, could be a quarter. But after that I think the basic parameters that are in play that will help everyone including Bosch.

So we end this. Before I end, I would like to share with you that I mentioned to you the company is based on ethics and values and our founder who founded this company 131-years ago gave 92% of his wealth to the Robert Bosch Trust. We as a part of the Bosch Group for many years have believed that society and business cannot be segregated. So for many years, we started working on huge thrust areas, but very granular, very deep, example, when Mr. Modi came along with Mr. Chancellor to visit Bosch, his focus was Skilled India and Innovation. We showed innovation under “Make in India” and

we showed skills India under Skilling. Our vocational center in Bangalore, which is out of the 55-years of existence for 52-years have been given the precedence about for the best training establishment allows us to share skilling to the rest of India. Today, we have approximately 125 centers skilling 6,000 youth with not employability but 100% employment in two months' time, it is called "Bridge" -- Bosch's response to India's development for employment. We not only do a three-year skilling program which saw which is till now 2,500 apprentices have passed and the best in the world I could say. But we also do this skilling where our aspiration is to go to 10,000 and 20,000 per annum. So we intervene in 188 villages right now in India in six states in a holistic way. We work with 75,000 kids around Bengaluru from minor to major child health hygiene initiatives with 17 NGOs and hospitals who do minor to major operations because Bosch is involved. So our social program, what you are going to see a glimpse of Rajasthan, a village around 35 Kms away from our plant where just in the last three years these 10 villages that we went including in the lives of 20 girls, in Rajasthan, literacy is very low, child and girl marriage is very early. One of these girls, 14-days ago, we get to know got the topper just in three years intervention of the whole of Rajasthan in the rural area. So this is just a glimpse of what you see on social engagement. It is as important as our business.

Moderator: Thank you. Ladies and gentlemen, with that we conclude today's conference. Thank you for joining us and you may now disconnect your lines.

“Bosch Limited Conference Call”

June 27, 2017

Management: Thank you. A very, very good morning to all of you and more importantly thank you for coming and spending some time with us especially on a rainy day in Mumbai. So, our team here, Mr. Karthik has already mentioned who is also the Joint CFO and also we are lucky and happy to have Christian Koitzsch who is heading the Diesel R&D Centre. So what I will do today is take you through some of the key points in the agenda. There is a short video then followed by the presentation.

Thank you. So today what I will do is I will take you through about the Bosch Group Worldwide, Global mobility trends and then it is very important on the current topic about the legislative changes that have taken place and this is perhaps one of the fastest changes in the world and let us share a little bit on that.

All of you know that we have had also huge changes and about the further next week, which is the basic financial norms and then a hot topic recently where EPI has announced in India to go electric by 2030-2032 so and of course, find the mobility.

Now before I start, I would like to share this point, this movie, which is the corporate movie of our parent. Very few of us know that Bosch to be a very connected company. So I would like to leave this thought behind with you. Bosch is not just a products and services company. It is a very connected company. This journey on being connected started many years ago, but typically Bosch in a very quiet way.

September 2016 Bosch launched its IoT Cloud and currently 65% of our products are IT enabled and 2020 all the products and services of Bosch will be IT enabled so ability to talk to each other. So this matter connected.

Second point I would like to leave behind with you is that Bosch is a very systems, business solutions oriented company. It does not give just products and services. It gives you a complete system and its business solution oriented and I will share examples, and this I will share examples with you about our journey in India. About two weeks ago, we held IUT conclave in Delhi where we shared platforms and for the 350 to 400-odd audience it was quite surprising to see us being in connected agri, connected mobility, connected homes, connected solutions and connected retail. There are many, many areas of connections that we share with used cases.

So, I would like to share that and I will tell you also very openly what is in the listed company and what is in our 11-Bosch legal companies, what we do in India. We give a seamless face to the customer as Bosch in India. So it is not just about the listed or non-listed, but we do, but I will share that also.

So very quickly to give you and basically, I will go through the key messages so that you have enough time for question and answers. So if you look at our parent, 131 years young. We in India 65 years in India and in Kolkata in terms of trading since 1922. So the parent is you can see Euro 73 billion and still very strongly dominated in mobility with 44 billion.

Now this Euro 73 billion translates to today's exchange rate approximately about 520000 Crores and this 60% on mobility if you compare with Bosch India in India we are around 85% mobility. So industrial technology I am talking about the Bosch Group in India as also Bosch Limited the parent company around 85%. Industrial technology with 6.3 billion, consumer goods, we are very strong in consumer goods. I hope you have seen some of our Bosch Siemens home appliances store, we started manufacturing in India quite a few years back and energy and building at 5.2%.

For example, in India also in energy we have besides what Bosch offers in India we even offer around 100 MW already installed from the list. So basically a very diverse group, still 60% focused on mobility and changing with the times and as I said all these areas pretty connected as you saw in the movie.

If you take the revenue and here it is a very interesting thing, please look at Asia Pacific. Asia Pacific grew by 8.1% with 20.8 billion it is the fastest growing region and currently 28% of the Bosch revenue out of the 73.1 billion transformation and is said to grow further. Our stronghold of Europe still continues to be 53% all of us know Latin America is a little weak. It is not expected to majorly change. It is not negative anymore in terms of current growth but at low base and North America at 12.4 billion. So main message here, Asia Pacific the fastest growing region, 28% of the Bosch Group turnover India our group turnover is around 2.5 billion and the listed company is about 1.5.

India, if you look at Bosch Group in India we are one group seamless face to the entire community and stakeholders. 18 manufacturing plants, 11 separate legal entities. We provide our supply base of direct and indirect to 1500 entirely to our all our 11 companies. We have greater than 4000 sales outlets and the number of associates are 31000. Interestingly, Bosch in India has the highest R&D engineers in the world outside Germany.

Bosch globally has 53,000 R& D Engineer of which 18,000 or 18,500 R&D engineer are from India doing end-to-end solutions for India as well as for the world. So India plays an extremely strategic role. To give you a small example, artificial intelligence centres, which have been set up last year in Bosch, are in three continents and three countries the North America at Waltham, Germany at Renningen, Stuttgart and Bengaluru in India. So we have a very, very good base and a reputation in the Bosch Group and where we are into labour arbitrage but giving end-to-end solutions and some examples I will share later.

So, if you take the listed company, by the way Bosch Limited or earlier which was called Mico Bosch or Bosch Limited is the only public listed company in the Bosch world. This also we must appreciate and understand, so in a group of 520000 Crores. We have more than 9000 associates, we are constantly looking of course at improvement and productivity. Our turnover is around you can see if you convert that million and make it user friendly 10180 Crores. This is after carve out of SG we had. If you remember started in January till we did a carve out, we shared with you last year itself, we have eight manufacturing plants and if you see in the map it gives you the manufacturing locations plus it gives you the milestones, Kolkata since 1922 right up to the inauguration that we have recently had on our manufacturing plants.

So, a huge history and the Bosch Group in India of the 11 companies puts in a capex approximately anywhere between low year of 650 Crores to a high year of 1000 Crores. Around 80% of this comes from the listed company, so I was sharing with some of you that we do not go into euphoric time or into a depression time. We steadily invest in capex infrastructure, buildings, machinery, new locations including products services and solutions irrespective of what the economic trend may be based on business mix. So this of course will continue.

To give you an example, this year financial year our company has talked about 800 Crores and 15% of this will go into R&D. If you take the shareholding of our parent, and now this is very important, AG is called the Aktiengesellschaft, which means a public limited company and a GmbH is private limited. So RB is GmbH it is a private limited company and here you can see a very interesting unique combination compared to the whole of the world in terms of architecture.

The founder gave away 92% of his wealth to the Robert Bosch Stiftung. Stiftung in English means Trust. So the company Robert Bosch GmbH is actually owned by a trust but not run by the trust. So it is sort of a dual four like principle. The family, which has 7% equity, does not have any executive say or run in the organization. Here you can see the voting rights. Here it is just the reverse. So, the key point I am trying to say is on one hand the company is owned by the Stiftung but it is not run by the Stiftung or the Trust. And in India Bosch Limited on the right side 70% is held by the promoter. We recently had a buyback last year. All of you know that. It was slightly higher, now around 70 and others are at 30. So uniqueness is after capex and R&D, which in Bosch GmbH has been between 8% to 10% over years of the turnover. The money, the profit in surplus goes into the trust. So a very social philanthropic company while retaining financial independence through internal accruals and also ensuring society is looked after but more importantly the company progresses and changes face over the years.

Global mobility trends, legislations and emission norms and here comes some very interesting messages. The first message here is that in a worldwide powertrain scenario we anticipate that the CAGR or the compounded annual growth rate will go up by around 1.7%. This takes into account issues like shared mobility, you know mobility is not only going to be individual mobility or ownership, there will be mixed bags depending on whether you are in the emerged world or in the emerging worlds, but all of us can see that our individual and collective behaviors in India has changed in the last two three years based on Ubers and Olas and I think our children are changing it even more.

So aspirations even in the emerging country are changing on wants and demands in life. And so this includes and therefore the 1.7% takes I would say a muted, but perhaps a realistic look on a case between 2015 and 2030. The second message here is that what you see in the light grey bar which goes up right up to the light green and the light blue and if you take the exception of the green which is the e-mobility, that 99% in 2015 was the ICE, the Internal Combustion Engine. And now we have two cases in 2030, which we have assumed. One is called the e-mobility case, which defines that electrification in the world will have a very strong influence based on Vuka, based on Green, based on affordability, many assumptions are put in. A very important part is that electric vehicles will become relatively cheaper, breakthrough in battery, even there you have an 82%, so in 2030 a normal case of 90% ICE by the way ICE contains as you can see the hybrid electric vehicles as well as the plug in hybrid electric vehicles.

So you see the HEV and the PHEV and the EVs are pure electrification to 82% first case. So, colleagues here in India if this is the CAGR for the world all of us know that India there is a likelihood that this percentage will be not 82%. So we are not trying to doubt what Nidhi Aayog is saying. I think our Prime Minister is very doordarshi, visionary and is putting the cat amongst the pigeons in terms of saying we need to do it and that is a very good approach, but the percentage we have to take with a pinch of salt and we have to understand the reality of the numbers as well as the hybrids will play a role.

Overtime in India I think also we will and the government will look while not giving subsidies the government will look at how the government would like to bring hybrids in. So summary powertrain is there to stay for a long time within which diesel and gasoline will play a big role. We do not see CNG in India to play a very major role. Hybrids while currently the subsidies have been taken out and this partly also happened because of the introduction of what is called “mild hybrid” will be there, we believe. In what form electrification will come in will depend on battery in a major way. The breakthrough in battery, with the subcontents of safety of a battery with subcontents of longevity that means range, affordability and also the ability of weight and finally what the full package looks like for the consumer.

ICE on the other hand will continue to improve in big jumps in terms of BS-VI we will share with you the jumps are pretty big and I will also share a little bit on the myth of whether ICEs and especially diesel are polluting or not polluting. Just with facts and figures. So very important summary and very important ICE remains dominant and even with e-mobility case where we see worldwide to gather momentum especially in the emerged markets in India the percentage as compared to this chart will be low.

Now many of us have spoken and this we have shared with our parent company also that in an emerging country the lag is very, very deep but I think in India we are proving it wrong and you will see that on that leap of faith after this slide and a couple of slides the changes in India are perhaps the fastest moving across the whole world. How do we cope with these changes and what we do is something that we have to understand in terms of preparedness both by the OEMs as well as by the automotive component manufacturers especially at the Tier I. There your company, Bosch Limited as well as Bosch Group in India is very well prepared to walk with our stakeholders on the entire journey. These are some glimpses that I am sharing here.

First one is on emission norms. A country like Germany took four years to go from Euro-IV to Euro-V and four to five from Euro-V to Euro-VI. India is taking a leap of faith from April 1, 2017 to April 1, 2020 in three years time with the March 29 ruling it makes two and a half years unofficially because the OEMs have to be prepared with SOP by October 1, 2019. So we are talking of an enormous change where the rest of the world had taken eight years India at best theoretically three years, in reality two and a half years to go into a BS-VI mode and what does it entail that I will share with you.

Fuel consumption regulations, massive change again and this with focus on CO2 crash standards all of us know that already this frontal cash strike have been indicated of course, albeit at a very low pace. You must have heard that many of the smaller cars and I am not moving to any OEMs or models had very, very crash tests which were not very helpful because they backed up literally. So crash tests on all models from 2019 safety standards. We have been talking; Bosch has been talking not as an interested party, but about safety. I personally have done for about three years a lot of work on this. 150000 people have fatal accidents in India, highest in the world. This is the recorded. Unrecorded would be higher. Today like 2015 on CV was already announced. PC and two wheelers and EBS at 2018. Two wheelers of course greater than 125cc.

Market trends on electrification, the positive news is in the last three months the government has introduced a slew of statements including wanting to create a policy on electrification with Nidhi Aayog very clearly indicating of e-mobility scenario by 2030 for Pascars. The first you can call it mass but at a limited number 200 vehicles or 250 vehicles, I would be correct if the numbers are wrong in Nagpur between Mahindra and Ola, it is

public domain knowledge and such things will happen but we heard from Mr. Goenka that currently when you launch a mobility system even on a public transport system, it is currently financially not viable. So it is yet to be financially viable in the long run because of the current situation on costs, the gap between electric mobility and ICE it is a change and it is a big change so electrification is there to come, and this I think we have to gladly accept and question is when and question is the battery technology in terms of the break.

If you take a legislation emission, clearly you will see in the red line a clear disruption for all the reasons that I mentioned. BS-IV to BS-VI is a massive change, and you see it happening across the board for everything other than the dotted line, which is off highway and tractor which is governed by trend as also by CPCB for off highway, but a) BS-IV happen, industry was caught unaware with the March 29 ruling. The Supreme Court overruled the executive order and suddenly the industry had according to SIAM a huge volume of Pascars, heavy commercial vehicles and all of you know scooters were being sold at 40% to 50% discounts.

So today industry is saying that BS-VI will happen also in the same way with the March 29 ruling and you will not be able to manufacture so to say to carry forward, so that is why the three year what I mentioned as well as the two and a half years. So huge disruptive technology change and I will explain what this change is a little later.

This is a very interesting slide. You have the European Union flag on top and you have the India flag below. Please look at since 2005 to 2020 what happened in EU. The European Union introduced Euro-IV, which is the higher version of the BS-IV, Bharat Stage-IV in 2005. By 2009 the European had introduced Euro-V and by 2014 Euro-VI was introduced with 2017 Euro-VI with real driving emissions, RDE. What was the gap of 12 to 15 years between where India was in terms of lag on technology is getting into a gap of only six years.

Now the question is there is some very important questions which are coming on this emission changing. How well prepared is the industry for this because this is not just an emotional statement. You have to have content, you have to have the fuel, we from Bosch have always been a neutral technology provider of information to the government but also to the OEMs. We estimate approximately two years is the time before the introduction of Bharat Stage VI where the fuel has to be ready and available for validations to be done. We anticipate that the OEMs would like to have their SOPs for the larger set of engines, not the egg sorts. It is very important to look in this short timeframe how you do a pareto. So we are walking the entire story with our OEMs as a holistic business solutions provider and saying that how do we work together to meet this deadline but in a very granular way.

This deadline today is as I mentioned October 1, 2017. So summary, a leapfrogging of technology of a backlog of 12 to 15 years becoming a backlog of six years means over proportionate effort in a very granular way on ICE, not just at the fuel injection at the holistic ICE especially on the engine side with a new element which is the EGT the exhaust gas treatment which is a complete game changer in terms of technology and also partly add on costs, which I will come later to diesel and what happens to compact cars which brings about a need for a very detailed work and where Bosch with more than 400 engineers just on the powertrain and it is not built today. We have been working with these engineers for a very, very long time. We are extremely well prepared where we walked with our customers and stakeholders for the transition of BS-III to BS-IV and now we have given very holistic solutions to not only our OEMs, but also sharing with the government, sharing with NGOs as neutral technology provider of what this means in a granular way.

So very, very big change substantive change. The ICE technology is also undergoing a massive change. Today, you can see FIE or fuel injection equipment, which is indicated here is just one very important part. You have the EGT here, and the EGT has different meanings depending on whether it is LPV, Pascar or commercial vehicles. You have the drivetrain, you have the connectors, vehicles are becoming connected, so you know, even ECUs we manufacture in India not in our legal entity we do the fuel injection completely in our public listed company. We are still betting on electrified hybrids which in the Bosch Global because in India, when we started mild hybrids which was really just a start and stop that is not really a hybrid. Hybrid meaning is different. So worldwide hybrids is already picking up in quite a big way. There is massive amount of software functions. In India we have less because we have out of 31000 nearly 20000 colleagues in our sister company called Robert Bosch Engineering Business Solutions Private Limited and we work very closely between the listed company and this company where we do a lot of software algorithms and functions and of course we have to have the air management system completely.

So we are talking of a different kettle of fish here. In terms of someone who has walked the talk because our parent has done this over and over again. In India we visualize it, we localize it at appropriate time and then we give affordable innovative solutions. Beyond what we provide as hardware, software and business solutions we are also having a holistic strategy in the centre what I have not written is of course people because that is our most important asset, but product strategy, resource strategy, competence strategy, manufacturing strategy, our manufacturing facilities by the way you will be glad to know this we are one of the pioneers in India on industry for an auto and we shared with the Ministry of Heavy Engineering and shared and showed that you can apply industry 4.0 in MSE so it is not only to say only multinationals and big companies can do invest for an auto. So we are demystifying industry 4.0 with actual used cases in all our factories.

Purchasing is undergoing a lot of change after market and within this a lot of connectivity and digitalization. So R&D efforts for this leap is three to five times of the previous one. This also is a significant part. Electrification roadmap I am not going to read out now colleagues here. You know what Mr. Modi has said, you know, about Nagpur, you know about what Nidhi Aayog has said. There have been several announcements on Suzuki, example Toshiba Denso and also what our energy minister Mr. Goyal has said. So short point we believe strongly India is quietly but clearly making an intention very clear. It is very good for industry.

We take this as an opportunity because Bosch and I will share with you how Bosch has also transformed over the years where quietly our parent and us in India have worked on electrification and how we are prepared. So Bosch Solution for electrification are holistic. The answer is yes. We do not as yet manufacture batteries. Our parent would decide based on USPs on the battery. So like anything and everything Bosch takes a very informed and calm decisions, but the other areas you can see we are completely there including our in-house manufacturing, intelligent outsourcing and more importantly the entire intelligence we back whether it is in regeneration of braking systems to thermal management systems, 48 volts we are very strongly there. 12 volts by the way is “mild hybrid”, e-drives you know we have from two-wheelers by the way Bosch is the largest provider of e-bikes, e-drives in the world and it is changing the face of developed countries especially with the inverted pyramid where people at 70 and 80 are finding the joy of cycling including in the mountains.

So, charging solutions let me give an example, Singapore Bosch has installed a charging solution, integrated charging solution, which gives for EVs a seamless connection, so we are very strong there too. We are a very strong systems integrator. Our R&D concepts for EV are at a pretty advanced stage and in Berlin we started two years ago an e-scooter sharing, which we believe in India sharing will become also very important. Of course, human machine interface.

Summary, we should gladly look at the opportunities called disruptive changes. Those who do not embrace change will be left behind. We look at intelligent value add in the value chain. We are looking at very speedy change and we are seen in India and the world as a systems provider and a systems solution provider. We continue to be one of the leading automotive and mobility suppliers in the world. In India with 65 years and a transforming company both in Bosch Limited as well as our sister companies for the Bosch Group where we work very closely we believe that we are in a quite hold position.

The world will become more and more connected. India has shown disruptions through smart phones and also to the world that education or lack of education has no linkage to connectivity including apps. So we have in Bosch a lot of connectivity solutions and in

India for those of you who have not heard about the connected future that Bosch India showed on the Connected India and for a Smarter India I would request, our colleagues to share with the link the IoT. So you are going to see it. It is amazing to see the transformation of Bosch in India including the listed company on connectivity.

We can send you a granular link on the details because each of these sectors you may be interested in knowing more about what is contained and connected mobility, connected agriculture. I will give you a small example. The Mahindra team when we went to the vendor's conference gave us the award for innovation to Bosch and it was for the DG sense. The DG sense is an agro based intelligent box on the tractors, which geofences the tractors, tracks faces, gives a health check while the tractor is running on the engine status, the fuel consumption, the quality of the drive and the possibilities to improve efficiencies and productivity. So in an India market where tractors 85% of our tractors are below 37 KW and only 15% is between 37 KW and 56 KW. So where you are actually renting out a combined harvester or even a smaller tractor you get a complete feel through this box of how it is running and how you can improve your efficiency especially for a tractor owner who is even giving it on rental.

5000 tractors are just a launch of less than year are installed today with it and Mahindra makes 250000 tractors. India has 650000 tractors. So I am only trying to say intelligence in the Indian way is being put into various sectors and this intelligence Bosch is very clear to make it innovative, seamless, affordable and meaningful in the Indian context. So we are cracking the mindset barrier of also so-called sectors where apparently there was no need or want. So very interesting solutions. We call this is I-trams, micro-clam it controller was another example that we gave where you can position and get feedback on pollution levels at a different levels so on connected mobility, so I would request we sent the link, which we give, granular details element by element within each area and I think their main focus would be interested at looking at connected mobility.

So we end the discussion with one small thing because Bosch is a very ethical and value base company we will show you what we do with society we are not in the business of business only. We are also in the business of taking care of our society around us because that the based from the philosophy of our founder who gave away 92% of his wealth to the trust, which then gives back to the society. So I think we have a strong team here and we will take the questions.

Sanjay Doshi: Good morning and many thanks for a very detailed presentation Sir. This is Sanjay Doshi from Reliance Mutual Fund. Couple of questions you made broader assumptions about how ICE even still remain around 82% in a worst case scenario by 2030 if you can help us appreciate what does it mean in terms of how ICE would have moved by them as compared to today and what ECE would have move in terms of cost and charging solutions and

everything and what will be the gap so that would give us a good idea to understand that why ICE will still remains so relevant. That is one. Second is Sir we have so many unlisted companies in India so all the future technologies that you talk about including connectivity's and the solution how it will how the decisions are taken and what to come in Bosch limited as a listed entity and what is in all?

Management: Thank you for this question but I am going to give you a disappointing answer, which is I think the whole world is asking this question. If we had cracked this question, we would not have been sitting here. There are scenarios you can do the ICE and scenarios that you can do in ECE. So I just shared with you the menu card of a set of scenarios and I also told that in India, the 82% on all likelihood will not look into this but nobody can give you because eight years ago, if you would asked what would be the impact of smart phone you would have got a different answer so I would request we leave it at that. The main message is ICE is going to remain still dominant at 20% to 30% while electrification will come in and even on a disruptive change will have a good percentage in emerged markets relatively perhaps a little lower and that is the scenario that we see and most of the world sees. We will leave it with that. The second question that you asked we take very informed decisions, guidance for the future we have never given and we will not, but we take very informed decisions you must have seen that we have not just been strong in diesel, we have become a pretty large player also in gasoline now if you had asked us this question eight years ago we have recent gasoline played a very small role. Today it does play a very small role, so I can only tell you we are extremely careful about investments including within the legal or think we take our own informed decision both as a region as at the global world and we are very careful to take care of the listed company beyond this case I cannot say anything. We pressure the listed company and we are extremely careful to look into the future of this company.

Sanjay Doshi: Thank you Sir.

Unknown Speaker: What you said about we are not looking here for numbers but we are looking for is what is going to be the response of companies which are into internal combustion engines, what kind of changes do they need to do go as to maintain let us say reduce their cost or bring down their cost so that they are also around with the lower costs, why I am saying this because between a BMW or a JLR it is the engine also which makes a lot of difference, the kind of engine which is there and as people move into in the smaller or the larger vehicles into electric vehicles the differentiation on account of engine would tend to reduce, I am using the word tend to reduce so how do the eyes in companies the larger OEMs reduce their costs or reduce their ICE costs so that we have?

Management: So the first point is Bosch as a company walks the journey with our OEM partner because it is a partnership and it is a relationship of many, many years. We are very clear that we are

not there to go in just for acquisition. That is not the story that Bosch sells. We also do not sell products. We go into a relationship management after I say is I will request my colleague Dr. Christian Teich to give a few small examples, which are in the public domain. If you take Suzuki, I will you give you one example Maruti Suzuki they moved up in the last three four years from around 38% to 47% market share. What have they done and if you look at those products huge Bosch content we do not talk about if you look at a Vitara or a Brezza if you look at a latest Swift Dzire, if you look at Baleno, huge Bosch content. From a simple thing from infotainment to the changes in the ICE to the connectivity to various products and solutions, Suzuki along with partners like Bosch create a market on quality being given in India because people are looking at quality, style, innovation, slew of new models that means partners like us have to work very closely, very fast on changes and affordability. So the word affordability is very, very important therefore you need partners like us who go into a lot of localization in an intelligent manner, because localization not just at hardware also at software then you need to walk the journey from conception what I call it from whom to who before conception right up to the end right up after SOP also after sales service. So this holistic approach Bosch is in a very good what I define in a quite we has a whole position to deliver because we have done this before what we do now is we localize it further, we visualize it further and what exactly you mentioned on ICE we say end customer has to go into that famous old Pepsi saying “Dil Maange More”. Yes that end customer should say I want more and some of the OEMs have cracked this and one example which is we have gone into the hearts and minds of the customers and Bosch being a very strong partner with Maruti Suzuki and we are very happy but we do this with various and all our OEMs. So summary the ICE will be dominant provided we give a holistic seamless experience including affordability, which Bosch has repeatedly proven including what I gave a glimpse of BS-VI and how we are getting prepared. Intelligent outsourcing, intelligent works with our sister companies, intelligent localization within our own public listed company and invest for the future, which we are seamlessly doing. Christian would you like to say a few words on public domain.

Management: Thank you so much. There is not much left to be saying. Thank you very much. You covered already but you hit the nail with your question. What do these colleagues I would emphasize, who our partners or some will say our customers would do they are typically having on the expenses in the range of slightly above 1% some of those going towards the industry average for the 5 to 10 nothing more I have to say we are facing disrupted technology change and disrupted technology change like a runner within you say 2.5 years net and they have some truly behind what would be the most intelligent way for them. They search for a partner who is bring them into a position, provide system solutions and that is what we observe also not that we adjust playing for it, we see it in our acquisition face now left and right, the customer is not asking for somebody who provides components and especially not those suppliers who emphasize look we can solve your problem just by my

state of the art fuel injection system that you would be fantastic and bring it way forward to run over isn't it but it is not the solution and we are looking into sustainable business as you have rightly said also in the past we have proven it so we are the partner of choice typically in providing a holistic optimization and there is so much way you proposition optimization possible, if you look into maybe I put a little bit more value into the AR system of our combustion engine into reviews then the emissions and you pose the question. For example I would like to take it up from where are you coming since we are giving a little bit maybe disappointing feedbacks if everybody opens the newspaper, and expects in 2030 complete electrification, I do not want to disappoint everybody but we believe still into the chances of a combustion engine since it is part of our mobility today, affordable mobility and the way the face where we will have pure electrification in between there will be a transition phase and the good teamwork in between an electric engine for example in combination will bring down emission significantly we see it. Now we are heading and now I would not be here from R&D for quick note share some numbers but logically we are talking about on the CO2 side currently of 130 gram/km and you ask what will be the number in 2030, they are a lot of studies done and also investigation in tandem with an electrical motor, you would have in that range we are really sure, so the combustion engine would even go down to 65 to 70 gram/km that seems to be feasible. Also from emission point of view you never forget. I am now on the dirty side. I am the diesel man, so you are looking at me and trying to find out what is he telling all those who are expecting now that I sing the song, I have to excuse for the pollution, I would not do since the particles that are coming out of a modern diesel engine is now you have to fasten your seatbelt, if you break, you emit 40 times more particles than what comes out of tail pipe. That means what is out coming after the particulate is so less, the particulate the issue is solved if or provided you are introducing a particulate filter and this is now what we appreciate that there is a strong call from government and this is for all of us good sign, so no compromise on emissions and it is not a problem and ICE will make it also diesel particulate filter is feasible in India so we will clean up or to the particulate and on NOx side it may even go down to 80 mg.

Management: Christian just to add to what you mentioned, I think they may have an unasked question which is you are talking of BS-VI what happens currently now if you look at the Delhi ban which happened on the NCR and January 3 was a very important pronouncement in 2016 and then September that ban was removed. We as Bosch did not join the bandwagon to say this is right or wrong. We just provided data and four of the ministries went finally to Supreme Court and shared this data. The Ministry of Environment, the Ministry of Heavy Industries and Engineering, MoRTH and Petroleum and the data shows very clearly that even with BS-IV and BS-III as compared to chula, Diwali, crop burning and debris this is very low. There is certain pollution from diesel vehicles BS-I, BS-II, because in India we do not have a scrappage policy. So we welcome again what the government has announced that it intents to create a scrappage policy. So I went back now from BS-VI which they may say

that okay this is hope and this is 2020 what happens today. Even today it is a different ball games as compared to a smoke belching, old machines which is 20 years old which we would welcome all over the world. There is a cap on number of years including removal and also the fact that NCR capital needs also do things in other forms and Delhi it went up to 950 against average of 400 and Stuttgart you create a fine stop alarm or fine dust particle along at between 50 and 100 so we have to understand data in the current position, am I saying something correct. So basically I would just compliment and Dr. Teich is doing his second term in India so we are very lucky colleagues like him who come back again and again. He is heading the diesel division for R&D with more than 450 engineers and we work very closely with the world in a seamless manner so I hope it is a slightly long winded but you have to get this broad picture.

Gautham: It is Gautham from Motilal Oswal Securities. There is the slide #18 where you see you also have battery for electric vehicles so are you also part of the electric traction ecosystem in some way and can you give us share some more light on that?

Management: Yes I have mentioned this already to you that we currently Bosch our parent, we source the battery. We have not yet gone into manufacturing. The manufacture of battery by our parent and later in different parts of the world is based on Bosch creating its own USP. I also mentioned that there are various key parameters for a battery, range safety, safety Bosch would always, Bosch is a very safe company so it would mean that even at a high crashing just a few seconds in microseconds cells have to shut down. The affordability the longevity that it range and the safety are going to be some of the key parameters so Bosch will look at USPs a decision would be taken by end of 2017 by our parent and right now I mentioned in this whole landscape other than the batteries, which we are providing as a solution and we have very good sourcing technology but other things we are into assets so do you have to comment.

Management: I would like to comment one thing there is one battery, not small one and it is for entry ticket of the hybridizations we call it internally to be a little careful, break recuperation system, 48 volts typically in the range of 400 watt/hour, that in the mildest form of hybridizations and in our case here for India the most attractive form from 2020 to 2025 and this battery is already part of our portfolio. We are unfortunately importing it but at level solution for India since it is one of the technical solutions that does not need any cooling water cooling outside so at level of solution very affordable and enabling mildest form of hybridization here in India. So we are part of that.

Management: Absolutely, so the question that you also ask was are we producing worldwide the battery and this part of we had mentioned that we are not yet but mass volume we will be looking at, Christian Teich as mentioned on the 48 volt and for that part and if I may add Christian we are I think they should know about it we are already in giving holistic solution for two-

wheelers and even three-wheelers and some of the names for two wheelers you already know. So in India I am talking of we are already for a couple of years already working on this. So short point we welcome whichever way the disruption goes because we are prepared for it.

Gautham: In the near term from BS-IV to BS-VI you guys have seen it or happening in Europe so trying to come out of might upgradation that will happen so just for the content per vehicle if you can give us some reference let us say how would it happen or some BS-IV to BS-VI as well as the preparedness of the OEs as well as for you guys given the fact that you alluded that the timeframe is so small so I agree that we have been localizing a lot of content but given that the time limit it is much would it again be localized content and if you can give us some references on the pricing?

Management: I had shown a map here for the ICE and BS-IV to BS-VI. First of all we do not indicate numbers. No guidance, no numbers by design. Secondly, generic answer is are we prepared for the BS-IV to BS-VI, and the changes including the very important change here on the exhaust gas treatment? The answer is yes. You asked a question also indirectly on what does it mean the impact of content in relation to consumer preference indirectly you asked? But I will directly answer that. It is a fact that for compact cars in diesel in case of the additional content and especially the exhaust gas treatment will add to costs and we are aware of this just like electrification, the delta cost between IC and electrification has a certain clause. So on one hand, we believe that while we are giving a holistic menu card for ICE which means both gasoline and diesel including the possibility for hybridization exhaust gas treatment while it will have an impact on compact cars and that too in diesel which also OEMs are talking about we believe that it is only at a lower segment from 1.2 litres, 1.3 litre and depending on what you drive on diesel, you still have a pretty good business proposition.

Second we believe that as we have seen in the changes between the various emission norms companies like ours start giving more and more value added and affordable solutions because of localization, outsourcing, in-sourcing and so on and so forth. So we believe that at the end there will be a continued value proposition.

Third you will see a very interesting thing. Some of the OEMs are shifting their engine platforms, public domain knowledge information I will share. Take Suzuki. From a 1.3 litre platform they are moving into a 1.5 litre and at 1.5 litres diesel makes pretty good sense. So you have to look at the holistic ecosystem. You cannot look at individual touch points and that is why we said, ICE continues to remain dominant and diesel if you purely look at diesel now, take the aspect of heavy commercial vehicles, what will it be, most likely diesel. What would LCVs be? Diesel, electric still diesel. What would tractors be? Totally diesel. What would three wheelers be? Electric partly, diesel partly. What would Pascars be? We

moved up 10 years ago to less than double-digit of 10%. I think those days it was hardly 8% or 9% to 48%. It came down to 40%, currently at 36%. We look at cases which would perhaps 26%, so on an increased base, so we have to understand as a balance choice just in Pascars, utility vehicles will greatly do diesel, so we see a strong case for all players and we are in all the areas, diesel, gasoline, electrification, hybridization.

Management: May I comment, since you are so eager to have some numbers, there is one Frost & Sullivan study. Who talks about 15% to 20% increase in mobility costs taking the buying power now. I would carefully say the reason not more and this includes the efforts that you have to put in for exhaust gas treatment, but also holistic optimization plus safety. Safety accounts for a big part, as you know. We are talking about easily ABS, everything is sense for you; however, it adds cost. Now you ask how has Europe done it. Yes, it was more evolutionary. We had a few more years and then you do not feel it in the pocket since also productivity comes across what I would like to highlight is one thing that does not come across too much.

Adding costs is one thing on the combustion engine and here now taking the Frost & Sullivan number of 15% to 20% and on the other side it includes also CO2 optimisation and the beauty for diesel is the fuel consumption advantage remains or even goes towards the better side in the future since there is still some space. And with that TCO and here I am talking about if you compare and this is a public domain knowledge, if you compare the fuel consumption of the diesel engine in India compared to Europe now you have to fasten your seatbelt again 24% difference. You believe you will drive lot of fuel consumption diesel, I have to disappoint you a little bit since there is more possible technology and this will be fastest via this regulation and now turn it into a TCO calculation and now you come back and okay maybe this at 15% to 20% is even a business case and mobility will not increase in cost to that extensive the TCO will also improve.

Management: And Christian if you add to that TCO, what you rightly said and even if you take a worst case scenario of let us say in India now that there is no regulation on fuel prices of 15% delta. Look at what has happened in the last five years. A company like I had a chance to meet you up with Bhavish Agarwal, a company like Ola 5 lakh vehicles and which type of vehicles are being driven by shared mobility solutions, 5 lakh vehicles so we are talking about India also going through a shared mobility concept. I am not talking of a dramatic shift of Nidhi Aayog said on 100% electrification have shared we will have different segments based on India's young trend. There will be youth who will be wanting to buy an aspirational car as well as shared mobility, but the point what Christian mentioned and what I am trying to say also is that one has to look at it on an informed choice basis, kilometers, delta on the fuel price even after subsidization has been taken off and the fuel economy that you get including the element of shared mobility. Once you look at this whole picture, certainly you have a different thing emerging on choice.

Last point, you know, I would like to share a couple of points on this slide. In India we are moving up the value chain and all of us in this room just ask ourselves ten years ago what we wanted and today what we want when we go to a showroom. We want value added products. We want our family to be safe. We are taking informed choices on talk of the car, on electronics of the car, of whether the car is talking to the outside world including safety standards. Those days are gone when we brought a Maruti 800 and said we are going to be willing and waiting in a lottery for six years. Those days are gone and so I believe strongly Christian that many of these parameters initial will be enforced through regulation, later will be embraced by people because they will get a value proposition through localization with business solution providers like us. So agreed, initial needs a thrust. The Modi government is doing it, rightly so. Then comes embracing and third comes all of us move up the value chain to provide better ecosystem for us and our families. So these things will be embraced and in Europe when I first drove a car in Germany 25 years ago, the middle cars Christian did not have air-conditioning. That was not a standard part of the fitment, 25 years ago. So look also how India has changed compared to our first Maruti Suzuki and today. So you asked a valid question, cost versus benefit, the Indian public will be demanding when you have these things as a standard feature.

Unknown Speaker: My question is in terms of gasoline direct injection. How is that actually changing going forward and if you could talk of the competitive intensity because we understand while we are world leaders in diesel technologies, in gasoline there are other global players also, so if you can just discuss that?

Management: So I will share with between both of us. If you look at gasoline first in Bosch worldwide we have had a very strong footprint in gasoline, you know out of the 73 billion that I showed you around 20 billion of that comes from powertrain diesel and gasoline worldwide. Just to give you an example that is how strong Bosch is, so out of the 44 billion that I showed you for mobility gasoline and diesel accounts for Euro 20 billion. Just to give you an example worldwide and they are more or less equal. So we have a very strong footprint from our parent on diesel and gasoline, number one. Number two, what got incorporated as a company came in with the in line pumps, by the way Bosch is heading towards nearly 100 years of inline pumps and still manufacturing huge amount. And gasoline came in later. We discussed this very openly in our financial analyst concall, but if you look at the last eight years our footprint has grown very strong. Today, gasoline the growth rates are not at double-digits, they are very, very strong double-digits. I cannot give you numbers but and it is playing a substantial role and we are gathering very strong market share and the third part comes let us breakup gasoline now into two parts before I hand over to Christian. The EFI is coming in for the two-wheelers, carburetors are out with BS-VI. So we play a very important role on that too. We do the fuel injection system completely in our listed company. We have the ECU from our sister company. We give systems integrated solutions on a seamless way to our end customers and our partners.

The fourth part now which I will request Christian to talk about is which you did not ask openly but I will interpret it this call the port fuel injection and the gasoline direct injection and there again Bosch has both, but is dependent on the size of the engine and also the category. So you have the C category, you have the D category and you have beyond and that differentiation and where we are on these two I will request Christian to answer.

Management: Thank you so much. It is really a valid question. As you rightly said from let us say outside view, 10 billion again 10 billion so we are having a strong footprint in that. You asked about the technology in India look the vehicles around are relatively small in this placement. So the driver for GDI is normally they want to compete against the diesel and now I have to be careful since it is my combustion system. I would say what happens is now the step towards reducing the displacement volume is already done so what happens is it will be added to charger and here we have a massive increase in turbo chargers left and right, but it is not necessarily combined with the introduction of GDI since the advantage the business case can be questioned. So there are customers who would like to go the way very consequently, they downsize put a GDI and others go for PFI but combine it with a turbo charger. It is not that it is not possible. There are example and they are achieving CO2 norms. What I would like to highlight is although it is not to the degree as in diesel system, but also here system solution providers are asked for and what is our strong footprint in gasoline is still the ECU. The ECU as a controller or like in an orchestra the one who delegates, everyone who is playing piano or the violin is the system controller and ECU is our strength so we see that increasing that business without any reasons since to meet the CO2 norms, you need to combine the gasoline engine for example with my hybridization and what would be the most clever way if you introduce this intelligence into the controller and who has a solution, Bosch has a solution. There are controllers existing that combine even the control of the hybrid within the controller. So it is a competitive advantage from OSR. We provide complete solutions not only to the gasoline engine also the combination of gasoline with hybrid, so it is a good example in that.

Management: So actually what Christian mentioned is if you look at a gasoline system per se there are three elements in it, intelligence sensors which we do in our listed company, the aspect of the fuel injection system and the injectors which we do and finally the aspect of the ECU which we get from our sister company and the beauty now is ECUs, the intelligence is being put in from India. So the algorithms including the functionalities of what is needed we have the ability and the capability to do that. So it is not just the orchestra it is the type of orchestra, the number of people playing the orchestra and the music we want at affordability and innovation. So again functionalities are also dependent on what is needed in terms of intelligence. Very strong footprint on gasoline. Christian though your response for diesel we are representing the whole array. And though I drive a diesel car and both of them but I think we have love for both.

Unknown Speaker: Is it much higher in gasoline versus diesel?

Management: Look, you are asking a leading question; if you entered a little late, of course it will be. You do not have as dominant a position, but we are absolutely okay with it that our parent is equally dominant, we in India entered a little later, but the last five years progress that we see are leaps and bounds and when you walk the journey with your costumers, your customers come back, because it is about relationship management with content and we are absolutely okay with it and competition is very good for companies including for us. So we welcome competition. No issues. I think he was waiting for sometime. So, I do not mind. Allow him and then we will come back.

Unknown Speaker: Just one on the competition bit on the larger trucks the diesel side, we hear that one of the larger OEM right now is looking at a different set of engines, which is made by the supplier comments and in that the fuel injection might be not be a Bosch system. So, clearly there is some bit of backward integration that is happening; just to understand is that something that you see as a threat that where people start to do their systems, how would you probably take it forward from here?

Management: I am going to give you an answer based on public domain knowledge only. If it is disappointing, I am sorry, but I have to do that. Yes, I think your question is absolutely valid and we have been aware of it for quite some time and we are absolutely okay, whoever enters because the market is such that you know the space for others as well as the best player wins over time and there are no issues with it. It also happens that while competitors have come in also they have been certain issues in terms of different competitors having different challenges if I may put it and many OEMs have come back again to Bosch. So beyond this I will not comment, but it is absolutely okay and any player like us, specially mature player welcomes competition, because it just helps us to improve and we respect competition and we also revise our strategies to work in a very fair open market systems and then see what can we improve to offer our OEMs and partners a better solution. That is the only way to survive and to reinvent yourself. I think there is room for one more question, you asked but first we will ask you.

Unknown Speaker: In terms of content between gasoline direct and diesel what is the benefit on the connected manufacturing you are seeing in that?

Management: Okay, first of all, first question you know the answer. I am not going to give an answer. We do not give data on import versus localization; what we have mentioned again and again and you have to trust us on that. We do intelligent localization. It does not make sense to localize where it is not sensible to localize. So we have a very tried, tested and proven method where we look at when, at what stage do we go into part localization, into greater depth of localization and we have proven it again and again. Example, if you take some of

our conventional products, we are at high 90s. If you take our common rail, we are at 70%, sometimes even 80%. So, it depends on what needs to be done, is the market ready and do we have our partners and sister companies across the world where we can do intelligent sourcing and requirement, so that is one. Connected, I can only give an example more and more the mobility will be connected. My request would be please go through that detailed teaser, which we will send you, we showed our XUV500 with the connected solutions that Bosch offers as used cases today at the SOP level. So Bosch India is emerging as a very strong proactive connected company giving proposals to our OEMs like I gave on Digi-Sense Mahindra's abbreviation, we call it I-trams, proactively to our OEMs. The last question.

Pulkit Singhal: Hi, this is Pulkit Singhal from Motilal Oswal AMC. My question is on auto market, the auto parts. So, what happens to this market post one GST and post BS-VI. I mean so I am primarily from an unorganized, organized and industry growth rate?

Management: I think we welcome like all other industries GST in a very strong way. GST will open up for the first time in India huge changes in logistics the way we behave and organize market. In India the logistics cost are 14% compared to even that emerging world of 8% to 9% and you can cut it all across. So first on GST after market in India, which by the way we are the biggest player in India in automotive aftermarket will undergo for FMCG to automotive a very big change and we welcome it. Transparency, antiprofiteering, reduced number of warehouses, companies like Vivigo, which will transfer goods at of much faster rate end consumer will see a value proposition of a different nature. GST will aid it with initial hiccups. So that is GST. On the aftermarket, if you take where our menu card will still remain strongly, because we are always dealing with the parc, do not forget the parc is not vanishing. Many of us ask questions, oh conventional products are dying, answer is no. You have parc, which is a huge base and it requires aftermarket.

So, conventional products will stay as we speak we are making in Bosch Limited the highest number ever in our history on inline A pumps, A-2000 series and A350 highest. So, aftermarket is going to stay for conventional, for new generation and future generation products. In case of future generation, specially where you have electronics ECU and high-level common rail, the servicing will be lesser in terms of conventional, but will be more intelligent. Again, we embrace it, because things are becoming more automated and more intelligent. So, summary, we will have a play in all three, it is not going to vanish, service centers are going to be more intelligent. We will also be able to cater to electronics, mechatronics and the periodicity for the newer generation will be relatively a little lesser, but play will be there across and aftermarket continues to remain a dominant player and we are digitizing and connecting aftermarket also, our products and services.

The unorganized part in India unfortunately, I have done a lot of study on this matter, which is around 35% great to spurious will unfortunately remain until India clamps down on its implementation laws. I will give you a small example; we give a bailable warrant even today. We do not give a non-bailable warrant, a simple thing like this until the courts change from bailable to non-bailable. A spurious guy goes in and comes out and today this is the challenge we face and we have taken up with government. I had worked on this to ACMA myself as a Chairman of Consumer Affairs and industry plus the government has to work to implement laws and changes law in health sector, India has changed it. Today, if a person is selling spurious goods, he is not getting a bailable warrant. So, we end now with a small film before you show the film, I would just like to tell you on social engagement. I will tell you why we are showing this. Our company does interventions in the social area just to you a tip of the iceberg. We take care of 188 villages across six states in India. We take care of around 75000 children just within five kilometers radius of our headquarters on holistic health hygiene development right up to major and operations through tie up with 17 hospitals. We provide meals through Akshya Patra to 15000 to 20000 children. We do a bridge program on skilling because Bosch in India has been adjudged for the last out of our 55 years, 52 times we have been adjudged as a best training establishment in India. We train on an average and give 100% employment not in Bosch but outside, 5000 to 6000 kids per year, which will in another three years go towards between 10000 and 15000. So, there are lot of things we do, this is just one picture of Rajasthan, where are just showing you a glimpse of social engagement. We believe this is very strong for our leadership in how our leaders think and behave towards society, because you cannot in India segregate business and society. So, we are very ethical socially conscious and a small thing on. So, I just want to share 25 kilometers from our plant, we started to work about three years a go in these 10 villages in Rajasthan and we also made a small knowledge center; four weeks ago, we were happy to know out of the 42 girls we started training, one of the girls topped Rajasthan rural. One year ago, eight of these girls talked to our board, I can tell you their presentation without any papers are better than many senior management executive of companies. What I am trying to say is colleagues, in our company because of our founder, we started inculcating that you in India this is not a nice to have, this is a must have. It is a part of leadership; eight of us spent three days in the villages just to go to Jamba and understand the village life. So I feel all good companies if they want to go great, it is very important to go beyond business and it changes your attitude towards the country that you are living in. So, this was just a small glimpse, but a very, very emotional and a very important part of our Connect and Bosch being in India and having deep roots in India, while being on a German multinational. So we will end with that, I hope we were slightly informative on whatever you want us to say.

Moderator: Thank you. We will have a coffee break.