

19th NATIONAL CONFERENCE ON  
IN-HOUSE R&D IN INDUSTRY

*Organised by*

Department of Scientific & Industrial Research

in association with

Federation of Indian Chambers of Commerce and Industry

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**TEXT OF ADDRESS BY SHRI ONKAR S. KANWAR, PRESIDENT, FICCI**

Dr. R. A. Mashelkar, Secretary, DSIR and DG, CSIR, Shri R.R.Abhyankar, Head (RDI), DSIR, Senior Officials from Government of India, Dr. Amit Mitra, Distinguished Speakers Ladies & Gentlemen.

It is my privilege to welcome all the eminent scientists, researchers, technocrats, industry leaders and Government officials, who are here with us this morning.

FICCI is honoured to partner with DSIR to organize this 19th in - house R&D Conference and I take this opportunity to congratulate all the award winners this year from diverse fields like electronics, new materials, chemicals, biotechnology, agro and food processing, drugs etc., whose outstanding performance in R&D has earned them this coveted award.

Over the years, R&D has been one of the key drivers for enhancing the competitiveness of global economies. During the last decade, R&D investments in India increased from a mere US \$ 2.2 billion on US \$ 6.8 billion last year. A look at global R&D and innovation centers shows the emergence of new destinations in this activity. India is now one of the preferred locations for carrying out R&D.

Recently FICCI had the opportunity to organise a Global conference titled "India R&D 2005: The world's Knowledge Hub of the Future", which was inaugurated by the Hon'ble Rashtrapatiji.

In his presentation titled "Missions for Knowledge HUB", Hon'ble Rashtrapatiji urged Indian industry to become competitive globally and attract youths to science. He said that for the evolution of a knowledge hub, connectivity through four grids - education, healthcare, e - governance and providing urban facilities in rural area are essential.

The theme for today's conference "Managing Technology for Competitive Advantage: Emerging Indian Challenge", I am sure will certainly throw some light on this important issue raised by the Hon'ble President of India for Industry to become globally competitive.

Sir, in today's world, in-house R&D efforts has become very important for the industry to survive. These activities are necessary for the development of new products and processes in a cost effective way. Given this year's theme, I would like to place before you certain issues on Managing Technology for Competitive Advantage.

One, today we are witnessing the accelerated pace of technology change that has created new businesses. It has placed a large-scale demand for continuous innovation. New product, process and distribution of technologies provide powerful levers for creating value for businesses, whose future is technology driven. In such a milieu, technology management becomes valuable, both to businesses and to society.

Two, take the example of Telecom services and how it is getting commoditized with expanding capacity and lower complexity, leading to cheap and virtually limitless access.

Network capacity has increased 500 times and is doubling every three months. Broadband rates are dropping 20 to 30% each year. The proliferation of core technologies is giving birth to a whole new generation of hand held household devices with continuous networking.

The Internet is taking the shape of an entire industry and such innovation in the new technology driven economy, will involve strong links to basic research. Sir, technology has thus become critical in creating and sustaining competitive advantage in the global market.

Three, technology is omnipresent in all business of today, and futuristic - computer networks, communications, geomatics, life sciences, aerospace, advanced materials, tissue engineering, robotics and automation, are evolving at a rapid pace.

Four, in the past, technology led companies could afford to get along for a decade without any fundamental changes in their strategies. Today, strategic cycles are being talked about in 'web years', which is about three months. I am sure this time span will shrink further in the coming time. You can imagine, the impact of this process on all of us.

Six, Technology led businesses involve a profile of young and creative people working in an entrepreneurial mode. The ethos is one of partnership. Conducive environment for this workforce is needed to incubate successful business for the future. The challenge is of building such a creative environment, without compromising on discipline and systems. How do we assure change with continuity?

Sir, I hope that the three technical sessions & spread over the next two days, covering issues like Technology Roadmap through strategic alliances and partnerships; Developing Strategic Competencies for Innovation led Growth and Integrating Technology and Business Strategies, will provide the right opportunity to debate the mind engaging questions regarding integration of technology and business, how to incubate ideas and how to fertilize innovation.

I would congratulate DSIR for structuring a comprehensive programme for the coming two days, where experts from various fields will deliberate during three technical sessions. With these words, I welcome all of you once again. I wish the conference a great success.

Thank you.

**TEXT OF INAUGURAL ADDRESS BY DR.R.A.MASHELKAR, SECRETARY,  
DEPARTMENT OF SCIENTIFIC & INDUSTRIAL RESEARCH**

Shri Onkar S. Kanwar, President, FICCI, Dr. Amit Mitra, Secretary General FICCI, proud award winners, captains of industry, distinguished scientists and technologists, ladies and gentlemen,

Let me begin by offering my heartiest congratulations to the 11 award winners. You have really done India proud, by demonstrating that, we are second to none, when it comes to technological innovation. I am very happy this year 11 awards have been given. Last year, we had expressed our concern about the numbers not being in double digit, because for a country of a billion people, if we are not able to muster award winners in double digit, we have a reason to worry. I am very happy that we have these 11 award winners, who have done us so proud. I would also like to say that this is the 19<sup>th</sup> national conference and this tremendous partnership, Shri Kanwar Saheb and Dr. Mitra, that we have with FICCI and the Department of Scientific Industrial Research, we are extremely proud that this has been such a long-standing partnership. This is always a very special event when we all gathered together, celebrate success and coming in the wake of this fantastic conference we had in Vigyan Bhawan, which the President of India inaugurated. It was global conference, which lifted the spirits of everyone, where we looked at India's emergence as a global innovation hub. These are very exciting times. There is a great smell in the air. There is a great feel good factor about India, it is not just here, I see it everywhere.

Let me begin by recalling something that happened recently. I happen to be in Beijing just a week ago and there was a big gathering and the award winners were given the honour of having breakfast with Sir John Major, former Prime Minister of the UK. We talked about nothing but India and China. He said I am not surprised at the high expectation and excitement about India and China. He turned towards me and said, "Dr Mashelkar, in 17<sup>th</sup> century 40% of the global GDP came from India." He said I am not surprised about the resurgence of India. It was rather interesting that a country, which was rather responsible for fall of that GDP in subsequent years, a former Prime Minister of that country, was recognizing the fact that we were leaders. We don't have to look into our past. We had our glorious past. I have no doubt that there will be glorious future. It is very clear that one often says 21<sup>st</sup> century as knowledge century, one talks about the knowledge economy, but the emerging role of knowledge in the new economy is what I suppose gives us this greater confidence. Let's not forget that 50% of GDP of OECD countries today is based on production, distribution and valourisation of knowledge and it is expected to rise to 70% - 75% within the next 15 to 20 years. I believe this is where our greatest competitive advantage lies. Obviously, we are talking about innovation, we are continuously reminding ourselves that I in India has to stand for innovation, not imitation, not inhibition, I in industry must stand for innovation. I in institutions must stand for innovations and it is innovation - led growth, innovation - led jobs, innovation-led development that's what one is looking for and therefore

what we really require is a very strong national innovation system. I believe that there are four factors that are going to be very critical in building this strong national innovation system. First is human resource, something that the President of FICCI mentioned. Second is the competence and capacity of public research institutions. Third has to do increasingly with intellectual property and its generation and protection. Fourth, very important, is the competition policy that the Government lays out, so that our enterprises have benefit of competing with the best in the world.

Let me say a few words about each of these. First with regard to human talent. It is quite clear that when you look at the new wars that will be fought in times to come, they will not be based on this and that, they will be based on factors such as water, human talent, war on human talent practically. That is where India has a great advantage indeed. I often say India's future is in IT, but it is not Information Technology, it is Indian Talent. We produce a large number of very high quality talented people. When we talk about engineers, we talk about 3,00,000 plus engineers. Look at chemical industry and I see that innovation in chemical industry rewarded today. We talk about 1, 20, 000 of chemist and chemical engineers being produced in the country.

Whereas we have this, there is a worry elsewhere as I can see. It so happened that I was in what was called as Alback Technology Forum in Austria, where they look at the future of the European Union. I was invited to speak about the global shift that is taking place in terms ; of innovation and more towards Asia-Pacific. In fact, it is very well known for example that, it came to semi-conductor design, practically zero activity in semi-conductor design; took place in the 90s in these regions, that is South East Asia or East Asia. Today, close to 30% of it takes place here. That is the kind of shift that is taking place. After Motorola's first; R&D centre opened up in 1993 in China, there are 700 today and we have 150, by the way. So there is a big shift and that is what was discussed, what is going to be the implication of this. What they are worried about in European Union, for example, is that by 2010 they want to invest 3% of their GDP in R&D. For that they have calculated that there is a shortfall of 700, 000 researchers, professionals and where will they come from?

These are concerns now because India and China by 2010, would have changed so much that whether they will be available. So it is a war on talent that people are talking about. ; In fact, it was amazing that Alback technology Conference that was looking at the future; simply ended up with three words they said were critical for the European Union. I suppose they are true for us to. One was talent, second was technology and third was tolerance. Talent is very easy to understand. They want to grow that. Technology is easy to understand'; because European Unions have been strong in technology. Tolerance towards immigrants, immigration, because if you are going to fall short of human capital where will you get it from, unless you have tolerant policy. I would say, for India, perhaps I should say talent, technology and perhaps intolerance. Intolerance of mediocrity, intolerance of bureaucracy, intolerance of anything that slows us down in our growth and progress. The issue of Argumentative Indian, something that Amartya Sen has talked about, I suppose there is a

plus side to it as there is a minus side to it too. Perhaps, we need to become somewhat intolerant but anyway, the main point about the human capital is very clear and that is why I very much welcome what our Government is trying to do today.

For a country of population of 100 crores we just have one Institute of Science and I am very happy that Government has already approved two additional Indian Institutes of Science Education and Research; one to come in Pune and another one in Kolkata and Rs. 500 crore investment has already been approved for this. The first enrolment will take place from this year and I do believe that will require more. Like I said in our conference in Vigyan Bhawan, 1% of the population carries 90% of the intellectual energy. When we lose that 1%, we lose a lot, so getting these people back, whom we have lost, is also critical, when we talk about human capital and therefore the new announcement that the Government has made like the Ramanujam Fellowship is very very critical, because we are talking about any young person who wants to return, can come; unlimited number of fellowships, they will be given Rs 50,000 per month, placed in any institution of his choice. He will be given research support' and I believe we require such migration backward. So, when it comes to human capital, I believe these are very important factors. I was reading in the morning, the UNCTAD report on internationalization of research and Supachari's editorial is very interesting, where he quotes a figure of 35,000 professionals, having returned to Bangalore during the last three to four years. We always talk about brain drain, but we have to talk about brain gain and brain circulation. So this is the issue of human capital.

The second issue is about the public research institutions and their capacity. We need to look at major transformations because it is true whether it is CSIR, ICMR, IT system, Indian Institute of Science, our universities, we have huge institutional enterprises in India. Therefore, their transformation is very critical indeed. I also believe that these enterprises are going to be very important because eventually the product processes and services will be created by enterprises and what are their investment levels. I was looking at this particular report. There are very striking statistics. If one looks at Business R&D expenditure in 2002 - 03, I was trying to see which are the nations which top. So the top 10 nations will be all developed countries like US, Germany, France, etc. It's amazing. Of course the top is US with \$ 450 billion but in the top 10, suddenly there are 2 names that are appearing now- Korea at No. 6 and China at No.7. India does not appear in the top 10. When I am talking about the investments by business in R&D, I said to myself, it does not matter. I started looking at the emerging economy list top 10. I think India will figure there. It is amazing, I will read out the list for you: 1. Korea, 2. China, 3. Taiwan, 4. Russia, 5. Brazil, 6. Singapore, 7. Mexico, 8. Turkey, 9. Hong Kong and 10. Chile.

Where is India? I think we need to worry about it because this conference is also about doing introspection. Therefore, this investment has to increase; there is no question about that. We cannot talk about competition by just being clever. We have to be clever, but also invest more and invest judiciously. It is very critical. When you talk about competitiveness, one will start going through rankings. One can argue about the criteria but at the same time we need to be

there, so as to say, to be counted. As these investment rises, we have to look at being clever so that our industry, our enterprises are supported and that is where this issue of public - private partnership comes. That is where the Government interventions, Government policies come in. That is where the recent initiatives by the Government like creating the new Millennium Indian Technology Leadership Initiative, like the DBT's recent initiative on supporting small businesses, like the drug development promotion fund of Rs. 150 crore per year that Department of Science and Technology is now handling, become important. As enterprises actually develop their own capacities, Government should frame suitable policies, provide incentives, make investments as well as forge public-private partnerships. We need to move ahead, not just on the basis of tax rebates and tax deductions, but also investment. Let me give an example as to how we can be clever and we can win.

Take this new Millennium Indian Technology Leadership Initiative that the CSIR heralded 4 - 5 years ago. Today, we talk about 65 private sector companies and 230 institutions networking together. What are we trying to do in this? Let me just take you through the approach, which is different from the past. What did institutions like CSIR do in the past? They anticipated the market, they anticipated, well this is probably the market needs, this is what we should develop and went ahead and said oh! is there any buyer? found that the markets have changed; there were no buyer and so on and so forth. This programme is different. What this programme does is to say, where will we have competitive advantage? That product is identified and designed, by whom? Not by the industrial enterprise, not by the institution, but by picking up half a dozen best brains in the country, who will be beyond those institutions.

It's a collective endeavour to get the very best of the minds of India together. Whereas previously we worked in an area, where markets were certain and technologies were certain. Markets were certain because, products were imported, technologies were certain because products were there, you had to copy them. Now we are moving into areas, where markets are uncertain and technologies are uncertain. Like \$ 200 computer i.e. laptop. That is designed. Risks are taken, failures are condoned. If you fail. it does not matter and that is what that forges a partnership. So, what has happened, is that even with a limited amount of money that is being put in, we are being clever. For example, there is a world-class product called "Biosuit", which TCS has created. Bio-informatics was not something, that was Tata's core competence. But, they knew how to make a product. But there were 19 institutions, where there was tremendous core competence in bio-informatics, but they did not know how to make a product. They were brought together, just invested \$ 5 million and 18 months and they have come out with world-class product, which beats some of the best products. What is the lesson here? The lesson was that the public institutions already existed. Tatas did not have them, but they were theirs, because they are Indian and somebody had to bring them together, to create a world-beating product. That is what I mean by clever public-private partnership. That is what new Millennium Indian Technology Leadership Initiative is all about? Why I am emphasizing this, is that, we need more and more of it.

The third point is about intellectual property rights protection, which is becoming very very clear. If at all you ask me, while I was in China, one thing that became clear was that people are not at all happy with regard to China's attitude towards IP. That is where India stands tall, so as to say. That is our advantage. I am finding that there is an increased awareness now, there is challenge that is being taken up and I find the patent filing is increasing, not institutions. I don't want to take pride in the fact that CSIR got 200 US patents last year, that is not the idea. The idea really is: Do our enterprises create opposition for themselves by becoming strong in patents? Drugs and pharmaceutical, auto industry, I am finding more and more are coming. But I want to pose one challenge before you, that is to use our IQ to create IP for ourselves. On one hand, when we said 150 companies have come up and set up their R&D centres, they are creating their IP by using our IQ. But we need to use our own IQ to create our own IP.

These are some statistics. Let us say, US patents are considered as an indicator of technological competitiveness. That is in currency, you have to accept it. If you look at that 2001-03, the figures are very interesting. For Indians in India, 1022 patents were granted as against 409, which were created by these enterprises, who have their R&D here. That means around 40%. For China, the figures are 1543 and 979, that means 63%.

The message is very clear. We want these numbers to be increased. It is very clear that if you look at India as an R&D destination, if you look at foreign companies putting up their R&D centres in other locations, US is No. 1, UK No. 2, China No. 3, France No. 4, Japan No. 5 and India No. 6. But the prediction is that by 2010 it will be 1. China, 2. US, and 3. India.

So more and more of such things are happening and we welcome that. When that happens what we need to do is not only create IP by using our IQ for others, but also create IP for ourselves. That is going to be a big challenge.

The last point is the competition policy and the Government is doing a lot. But we need to do more by creating a hassle-free environment for sunrise industries like bio-pharma, for example, I chaired a committee, we have given a report to Ministry of Environment and Forests to make the path easy for bio-pharma, for example, 90% of their problems will be over if this report gets implemented. We need to do more of it. In the National Manufacturing Competitiveness Council of the Prime Minister, there is strong proposal on creating a Global Technological Acquisition Fund, because technology is not only developed in-house, but you have to acquire technology from outside and there are companies which are there to be picked up, who are strong in technology. I can see auto industry, drugs and pharma industry picking this up. The proposal there is: Can we create a global technology acquisition fund, so that these companies will be stimulated to go and pick this up, because that is how other smart companies do abroad? I think when it comes to creating a competitive environment, I believe these are some of the areas that we need to proceed on. Whether it is human resource, research capacity, IPR, competition policy, I believe we are marching forward, but as I said our destination will be decided no more by what we are doing ourselves, it will be also

decided by what others are doing. Many of them appear to be so fast.

I do hope that this conference, which we have deliberately positioned this time on the issue of managing technology for competitive advantage and have got some of our best thinkers. We will have the first session now which will be able to stimulate further thinking and I do hope that the words of Sir John Major about India's resurgence, recalling for us that in 17<sup>th</sup> century we had 40% of global GDP, come true.

Thank you.

### **TEXT OF VALEDICTORY ADDRESS BY SHRI R.R.SHAH, MEMBER SECRETARY, PLANNING COMMISSION, NEW DELHI**

Ladies and Gentlemen,

Dr. Mashelkar has spoken about me and given tributes, which I probably don't deserve. It makes me feel as if I am from the extra-terrestrial world. He is always very kind to me and I have a great admiration for him and his brilliance. It is true that we vibe well when we are together, when we do lot of thinking together and we find that at this point of time, India needs intellectual strides and India can make those, because we have it within us. What you are seeing now, particularly in last decade of the 20<sup>th</sup> century and the first decade of 21<sup>st</sup> century, is a transition from what used to be called capitalist economy, to a knowledge-based economy. We have probably not even fully grasped the full implications of what this means. In a capitalist economy, capital shrinks with sharing and therefore you have competition and that makes the basic tone what a capitalist economy-led processes would dictate. Competition is good, but in the case of knowledge-based economy, knowledge increases with sharing. Therefore, the entire paradigm of this economy is going to be different from what a capitalist economy led processes would dictate. So, while I am not going to say that competition is not important, but in this particular case, cooperation is going to be the key and the more you enlarge the cooperation between the different segments of the society, the greater would be the synergies.

We are talking to the scientific community here, and we are talking about innovation, creativity, R&D, which is also about innovation and creativity. Arthur Koestler has written a book, "The Act of Creation", where he says, when two hitherto un-correlated plans or experiences are brought into a position, then creator bugs fly. So, creativity comes by putting together two thoughts, two ideas, totally un-correlated and when they intermingle, they create new creator bugs.

If you were to look at the 21<sup>st</sup> century scenario of where the technology is going to be and how it is going to be different from what 19-20<sup>th</sup> centuries, you would find that the 19<sup>th</sup> and 20<sup>th</sup> centuries were geared towards understanding use of technology for understanding the world of nature, to outer world of nature, to understand and conquer various forces of nature and to use them for better standards of living. When you look at the 21<sup>st</sup> century, you would



see the shift from the macro cause to the micro cause. You would look at what is the infinite, the minor, the small, the atoms, the nano-technology. In the world of communication and IT, it will be the world of bits and bytes. In the world of biotechnology, it is going to be gene and neuro networks which is neurons. So neurons, genes, bits and bytes and atoms are going to be the areas, in which innovation is going to take place and since this is going to be dealing with very small, but very large numbers with individual descriptions, so you would need each character, having an individual description. You would be dealing with volumes of knowledge which can't be handled manually, which will have to be handled through very large computing and processing capabilities.

Looking at all this, we really need to create structures, which can drive us towards these four major drivers and fortunately for us, we find ourselves in very favourable position. We have established our powers in the world of information technology, world of bits and bytes. We are today talking about a country, which two decades back, was struggling hard to put a call from Delhi to Bombay and that country today has a telecommunication system which is the state-of-the-art. When I go from Delhi to New York, I stay with my daughter, I stay with Sacristies. It is a community which is upmarket. I find there are lot of snags in their communications. So, we have leapfrogged into the latest generation in communication and IT and we are today servicing something like 380 fortune 500 companies. We are not merely providing them software services and business process, outsourcing services, we are providing management consultancies. Look at where this places us. It immediately places us in the league of the top fortune 500 companies and we are advising them as to how to run their businesses.

As the laws entail that intellectual property created bears the name of innovator, so the Indian scientist does get technology in terms of the name, but the revenues are harnessed by the companies for which he works, which is also fine. After all, they have put infrastructure, put in position the laboratory, where he made it possible to innovate, but there is a third factor and that is India Inc. How do you put India Inc's seal somewhere in the system?, something like when you see a IBM computer, it says, 'intel inside' or Pentium inside. Why can't we have 'India inside' or something like that. That is the third dimension of creating innovative processes, where the brand image of India comes up.

I can give a crude example. I was doing a non-scientific job, when I was India's trade commissioner in New York, for about three years. We saw a very sad story of Indian merchandise, selling in departmental stores of America, with very high quality sophisticated merchandise going from here, selling for \$3000 a piece in Sixth Avenue and it would bear the country's origin label as Italy. The best of the fashion designers would be using that and raring that as their product, but India was nowhere. Suddenly this idea came to mind, I thought what do I do, which can make a difference and it struck me that let us look at the most important and most prestigious department store of the world. It is Harrods in London and it is Bergdorf Goodman in New York. What Harrods is to London, Bergdorf is to New York, a single store but is absolutely the upper end of the market and they have their

exclusive and semi-exclusive relations with Calvin Klein and Jaffery Bean, etc. all these famous designer names. So I went to Done Mellow and I struck a friendship with this lady, she was President. I did cultivate her fancies about India for sometime and then I persuaded her to do a country promotion for India, the first country promotion that was ever done. The time she gave me was 25<sup>th</sup> November to 5<sup>th</sup> January. We worked together about a year and she sent her Designer Dian Spencer. She worked with Indian sources and came up with fabrics and designs and furniture and furnishings and whole lot of things, which were so innovative and all these products were displayed on all the show windows of Bergdorf Goodman on all the floors. The net result was after this show was over, when I went to Sixth Avenue, the same dress which was selling for \$3000 a piece with country of origin as Italy, was selling \$ 4000 a piece with country of origin as India. This is where 'Brand India' comes up. So we really need to do something about 'Brand India'. This is a thought, which I would leave with Dr. Mashelkar, as to how do we do it. Industry and the scientific community can come up with the solution or formulation and if that formulation is legally tenable, we will have it examined and we will try to give it the statutory backing, if it is necessary.

I would like to mention here that in terms of the interface between scientific community and industry, I think we are just beginning a productive dialogue under Dr. Mashelkar's leadership. The quality of dialogue and interdependence has to be a lot more over the years; the two communities need to get totally intertwined and the industry must understand the real profits do not lie in large scale replication or mass production. From mass production you get only marginal profits. Your profit actually comes from the intellectual property and the way you capitalise intellectual property. The wealth of nations have been created in nations like the US and the UK, not because the product they sold, but on the original cost to them of a product, they added a couple of units and sold it with a marginal profit. The wealth got created by the intellectual property they created through R&D, which they encashed the product and made windfall profits in the first two to three years. That is the thing which we have to drive into Indian industry. If innovation has to drive Indian industry and if intellectual property creation is going to be the key, then we really need to look at, as to what are going to be the drivers for this effort in the coming five years.

Fortunately for us, in the Planning Commission, at the moment we are working on what is called the 'dimensional hypothesis' of the 11<sup>th</sup> plan. The dimensional hypothesis of the previous plans has generally been an exercise, which has been carried out by economists, particularly on macro- economic risk. It has been more or less an exercise in multi-sectoral modelling and input - output analysis and things like that. We want to move out of that paradigm and we now think that the public sector investment is only a small fraction of the total investment, which is powering the economy ; we do believe that those kind of macro-economic models may be progressively losing their significance, but what is going to be important is technology as a driver, intellectual property as a driver, industrial applications of technology, societal applications of technology, these are the fields, which we need to work. Keeping this in mind, I have requested Dr. Mashelkar to give us a base paper of his vision

and the vision of scientific community, his coordinating the efforts between various scientific departments and I expect to get that paper very soon. We will integrate his inputs into what we are doing from our side, both in terms of technology as a major driver of the next five years and for the next plan effort and also for intellectual property creation and the regime and paradigm, in which that has to work.

I do believe that these are some of the triggers, which are so important to press and I did not want to lose this opportunity, when both industry and scientific community from the CSIR side are present here and this is the dialogue which is going to pave the way for moving to very bright future and we really believe that we can make it work, we can make it click. If we can do it, if our people from Information Technology side can do it with fortune 500 companies, I don't know why our scientists can't do it with Indian companies. I think this revolution can be brought about and we can substantially increase, not may be the outlays and the spending in this sector, but also the outcomes in terms of patents that we create and the intellectual property we create and take pride in the achievement, in terms of innovation and innovative ability of the Government.