

English rendering of PM's address at 108th Indian Science Congress (ISC) via video conferencing

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Namaskar!

Many congratulations to all of you for organizing the 'Indian Science Congress'. The role of India's scientific power will be very important when India will be at its pinnacle in the next 25 years. Unprecedented results follow when the determination to serve the country is combined with the passion in science. I am confident that the scientific community of the country will help India achieve the position it deserves in the 21st century. I also want to share the reason for this belief with you. You all know that observation is the basic foundation of science. Scientists follow patterns through observation and they reach a conclusion after analyzing those patterns.

It is very important for a scientist to collect and analyze data at every step. We have two things in abundance in today's 21st century India. First - data and second - technology. Both of them have the power to take India's science to new heights. The field of Data Analysis is progressing at a fast pace. It helps in converting information into insight and analysis into actionable knowledge. Whether it is traditional knowledge or modern technology, both of them are helpful in scientific discovery. Therefore, we have to develop investigative attitudes towards different techniques to make our scientific process stronger.

Friends,

We are also seeing the results of the scientific approach with which today's India is moving forward. India is fast becoming one of the top countries of the world in the field of science. Out of 130 countries, we were at number 81 in the Global Innovation Index till 2015. But we have jumped to 40th position in 2022. Today India is among the top three countries in the world in terms of PhDs. Today India is among the top three countries in the world in terms of start-up ecosystem.

Friends,

I am happy that the theme of the Indian Science Congress this time is such which is being discussed the most in the world. The future of the world is secure only with sustainable development. You have linked the topic of sustainable development with women empowerment. I believe that these two are related to each other practically also. Today the country does not think about women empowerment through science only. Rather, our aim is that we should empower science with the participation of women and give new momentum to science and research. Recently, India got the responsibility of chairing the G-20 group. Women-led development is also a major priority among the major topics of the G-20. In the last eight years, India has accomplished many such extraordinary things from governance to society and economy, which are being discussed today. Whether it is participation in small industries and businesses through Mudra Yojana or leadership in the start-up world, women are displaying their mettle everywhere in India. The participation of women in extramural research and development has doubled in the last eight years. This increasing participation of women is proof that the society as well as science is also progressing in the country.

Friends,

The real challenge for any scientist is to convert his knowledge into applications that can help the world. When a scientist goes through his experiments, he always has this question in his mind whether it will improve the lives of the people or will his discovery meet the requirements of the world? Scientific efforts can turn into great achievements only when they hit the ground from the lab, when their impact is from global to grassroots, when they expand from journals to reality and when the innovations from research reflect in real

life.

Friends,

An important message is conveyed when great achievements of science progress from experiments to experiences of people. This influences the youth a lot. They think that they can influence the whole world through science. Institutional framework is needed to encourage such youth so that their aspirations can be expanded and new opportunities are offered to them. I would like the scientists present here to develop such an institutional framework which would attract young talents and give them an opportunity to progress. For example, talent hunts and hackathon events can be organized to spot scientifically minded children. Then the perception of those children can be developed through a proper roadmap. Senior scientists can help them in this regard. Today we see India scaling new heights in sports. There are two important reasons behind this. First, the institutional framework was strengthened in the country to develop sports talents. Second, the existence and influence of the 'guru-shishya' tradition in sports was developed so that new talents are recognized and nurtured and where the Guru sees his success in the achievement of his disciple. This tradition can also become the mantra of success in the field of science.

Friends,

Today, I want to put forward some issues before you, which will be helpful in deciding the direction of science in India. The basic motivation of our scientific community should be the development of science in India to meet the needs of the country. Science in India should be such which will make India self-reliant. We also have to keep in mind that today 17-18 percent of the world's human population lives in India. Scientific works should be such which will fulfill the needs of India and will give momentum to 17-18 percent of the world's humanity. And its effect will be on the entire humanity. Therefore, we should work on such issues which are important for the entire humanity. For example, if we take the issue of energy. India's energy needs are going to grow continuously. In such a situation, if the scientific community of India makes innovations related to energy requirements, then it will be of great benefit to the country. In particular, the country is working on the National Hydrogen Mission for the immense possibilities in hydrogen energy. To make it successful, it is necessary that various essential components like electrolyzers should be made in the country itself. If there is scope for any new options in this direction, then research should be carried out in that direction also. Our scientists and the industry have to work together in this regard.

Friends,

Today we are living in such an era when humanity is facing the threat of new diseases. We have to promote research and development to prepare new vaccines in the same way we are prepared in advance to deal with catastrophes like floods or earthquakes. Similarly, we have to identify diseases well in time through Integrated Disease Surveillance and take measures to deal with them. Different ministries will have to work together to achieve this goal. All of you my friends are very well aware about LiFE i.e. Lifestyle for Environment. Our scientific community can be of great help in this direction.

Friends,

The United Nations has declared this year i.e. 2023 as the International Year of Millets on the call of India. This is a matter of great pride for every Indian. Work can be done to improve India's millets and their use. Effective steps can be taken by the scientific community to reduce post-harvest losses with the help of biotechnology.

Friends,

Today there are immense possibilities of scientific research in the waste management sector as well. Municipal solid waste, electronic waste, bio-medical waste, agricultural wastes are such areas, which are continuously expanding. This is the reason the government laid a lot of emphasis on the circular economy in last year's budget. Now we have to further strengthen the Mission Circular Economy. For this, we have to work on such innovations which can make better use of metal and plastic scrap. We have to work simultaneously on curbing pollution and making scrap useful.

Friends,

Today India is also scaling new heights in the space sector. Due to low-cost satellite launch vehicles, our capacity will increase and the world will come forward to use our services. Private companies and start-ups can take advantage of these opportunities. Start-ups can find a way forward by associating with R&D labs and academic institutions. Similarly, Quantum Computing is another such issue. Today India is making its mark in the world as a quantum frontier. India is moving fast in the direction of quantum computers, quantum chemistry, quantum communication, quantum sensors, quantum cryptography and new materials. I would like our young researchers and scientists to gain expertise in the field of quantum and lead in this field.

Friends,

You also know that the one who takes the initiative takes the lead in science. Therefore, we not only have to take note of what is going on in the world but at the same time to focus on the works which are not being done anywhere and which are futuristic ideas. Today there is debate on AI, AR and VR in the world. We have to include these issues in our priorities. The country is taking many important steps in the direction of semiconductor chips. Over time, new innovations will also be needed in semiconductor chips. Why don't we think in the direction of making the country's semiconductor future ready from now itself? When the country will take initiative in these areas, only then will we be able to lead Industry 4.0.

Friends,

I am sure a clear roadmap for the future will be prepared on various constructive points in this session of the Indian Science Congress. We have to make India the most advanced laboratory of modern science in the 'Amrit Kaal'. With this wish, many thanks to all of you and my best wishes for this summit. Namaskar!

DISCLAIMER: This is the approximate translation of PM's speech. Original speech was delivered in Hindi.

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