

June 29, 2017

My name is Shintaro Ito, a member of the House of Representatives of Japan. I would like to thank the organizers for the invitation to join Americas Workshop on Linear Colliders. This morning, I had the opportunity to meet many scientists. It was a great pleasure to have very informative discussions.

This year will be very crucial for the ILC. By this summer, the new design of the ILC will be completed. It will include the latest progress on cost reduction. We understand that the ILC infrastructure will last for a hundred years. We can upgrade the facility and extend the tunnel. My colleagues and I will approach our government to push the ILC forward. I am sure that we can persuade the Japanese government to step forward in a concrete way this year. We plan to trigger communications with our partner countries to realize the ILC. Let us work together for the ILC.

Today, I would like to tell you about my hopes and dreams about the ILC project. The ILC will be built for science. It will uncover the mystery of the universe and the origin of matter. The ILC technology will also have far-reaching benefits to our society. I believe the application of the ILC technology will give us solutions to the crucial problems we are facing today.

Humans invented laws, ideologies, and other social systems. Science and technology have made our lives better and convenient. But when they have fallen short, conflicts and war have broken out. I believe it is important to eliminate poverty and illness in order to prevent such circumstances. I hope that in the next century, the global society will be happier and healthier. It is my hope that the application of the ILC technology will bring a new paradigm to our society.

I will talk about some of the issues, starting with energy. Humans made a leap in civilization by turning fire into steam. Then we produced electricity. Today, electricity comes from many sources including nuclear power. A problem we have yet to overcome is the disposal of nuclear waste. There is ongoing research to reduce the radioactivity of nuclear waste. The key will be the ILC's superconducting technology.

Our energy cycle today is centered around electricity. It is my dream that a new form of energy will be discovered in the near future. This will allow us to move toward a post-electrical society. Energy has always been a major cause of conflict throughout history. I'm sure that inventing post-electric energy will achieve world peace and prosperity for all.

Let's talk about environmental issues. It is said that refugees are caused by conflict and war. But there is another, bigger cause for refugees. That's the environment. I will give you an example. Last week, I met a politician from Italy. He told me that many

refugees who come to Italy are environmental refugees from Africa. Large areas of land have turned into desert due to deforestation in Africa. Trees were cut down to grow coffee beans and feed cattle. As a result, there is crucial level of water shortage. These lands are no longer suited for living.

I believe science and technology can help here as well. Developing new fertilizers and feeding stuff will increase productivity. By inventing new food to replace coffee or beef, we will no longer have to sacrifice the environment. I believe the application of the ILC technology can be used to develop such new material. I hope that the ILC technology will also give spinoffs for new energy sources with smaller environmental burden.

Now I would like to talk about medical issues. Cancer therapy with accelerators was developed utilizing SLAC technology. There was a start-up company from SLAC, called Varian. This company now supplies cancer therapy equipment throughout the world.

Synchrotron light sources have many applications in science and technology research. I had the chance to visit the LCLS facility this morning. It is a frontier research center in photon science. The LCLS produces X-rays to take pictures of proteins and viruses. It is being upgraded with the ILC technology. In the future, I hope more facilities like this will be built around the world.

There are many successful cases in drug discovery with light sources. Personalized medicine is also on the rise. Utilizing light sources, we can create medicine faster and at much cheaper cost. Generic drugs can be provided in much shorter time. This will save many people who could not afford expensive drugs. This will also save people suffering from intractable and rare diseases.

Another famous innovation from your field is the worldwide web originating from CERN. Today, it has completely changed our society. I hope the frontier research at the ILC will trigger epoch-making innovations.

Humans developed science and technology to make our lives better. On the flip side, we are facing problems in many areas, such as energy, environment, and medical care. I firmly believe that the ILC is indispensable in solving these crucial issues. Japan is ready to play a leading role to realize the ILC. There are over 150 Diet members of Japan supporting the ILC project. I believe that the ILC project itself will contribute to world peace. We will work together to push the ILC forward through an international framework. Let us make the global society in the 22nd century truly prosperous by realizing the ILC.