# XXXI

# TECMUN Jr.

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# Commission on Science and Technology for Development

**Wednesday, November 15th**

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| Registry | 8:00 – 9:00 h. |
| Opening Ceremony | 9:00 – 10:00 h. |
| Recess | 10:00 – 10:30 h. |
| First Session | 10:30 – 12:30 h. |
| Recess | 12:30 – 13:00 h. |
| Second Session | 13:00 – 15:00 h. |
| Meal | 15:00 – 16:00 h. |
| Third Session | 16:00 – 18:00 h. |

**Thursday, November 16th**

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| Master Conference | 8:30 – 9:30 h |
| Recess | 9:30 – 10:00 h.. |
| Fourth Session | 10:00 – 12:30 h. |
| Recess | 12:30 – 13:00 h. |
| Fifth Session | 13:00 – 15:00 h. |
| Meal | 15:00 – 16:00 h. |
| Sixth Session | 16:00 – 18:00 h. |

**Friday, November 17th**

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| Seventh Session | 8:00 – 9:30 h. |
| Recess | 9:30 – 10:00 h. |
| Eighth Session | 10:00 – 12:00 h. |
| Recess | 12:00 – 12:30 h. |
| Ninth Session | 12:30 – 14:40 h. |
| Meal | 14:40 – 16:00 h. |
| Closing Ceremony | 16:00 – 18:30 h. |

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*Secretary General: Santiago Gutiérrez Caycedo*

**COORDINACIÓN GENERAL**
Chief of General Coordination*: Lía Naomi Mejía Vargas*
*Coordinating Supervisor for Media Content: Emiliano Avalos Hernández*

**ASAMBLEA GENERAL**
*Subsecretary General: Monserrat Ríos Fernández*
*Coordinating Supervisor: Juliette Abby Orihuela Núñez*

### Sesión Plenaria de la Asamblea General
*Presidente:Regina Covarrubias Rosales*

**A)** Medidas para regular la crisis humanitaria en la República de Haití, partiendo de los desplazamientos forzados ocasionados por la violencia por parte de grupos criminales.
**B)** Estrategias para regular la crisis social en la República Islámica de Irán y contrarrestar el uso de pena de muerte como medio de represión, partiendo de las protestas antigubernamentales contra las leyes de moralidad de 2022.

### Primera Comisión de Desarme y Seguridad Internacional
*Presidente: Paulo Souto Núñez*

**A)** Estrategias para imposibilitar la posesión y desarrollo de armamento nuclear en la República Islámica de Irán garantizando la seguridad internacional.
**B)** Estrategias para evitar el uso de armamento y fuerza hostil en el conflicto fronterizo entre la República de Armenia y la República de Azerbaiyán por el enclave del Alto Karabaj en el Cáucaso del sur.

### Alto Comisionado de las Naciones Unidas para los Refugiados
*Presidente: Arantza González de la Peña*

**A)** Acciones para reforzar la respuesta internacional con el fin de garantizar la seguridad y el acceso a servicios básicos de los refugiados provenientes del llamado Cuerno de África como consecuencia de la sequía y los conflictos internos en la República Democrática de Somalia.
**B)** Medidas para proteger y asegurar el cumplimiento de los derechos humanos de las personas desplazadas internamente, solicitantes de asilo y refugiados como consecuencia de la crisis social en la República Democrática del Congo.

### United Nations Entity for Gender Equality and the Empowerment of Women
*President: Nuri Valentina Galindo Gutiérrez*

**A)** Measures to guarantee the economic empowerment of women in the Middle East with an emphasis on the Islamic Republic of Afghanistan after the ban of work for Afghan women and its consequences.
**B)** Procedures to reinforce and protect reproductive rights for women in Africa as a consequence of the HIV and AIDS pandemic.

## Programa de las Naciones Unidas para el Medio Ambiente
*Presidente: Jorge Roel Rodríguez Alcantara*

**A)** Mecanismos para frenar la desertificación en el continente africano, con énfasis en la sequía y las prácticas agrícolas no sostenibles en la región del Sahel.
**B)** Acciones para mitigar el impacto ambiental de la industria textil en países del sur de Asia, abordando la producción de moda rápida.

## Histórica Organización de los Estados Americanos
*Presidente: Abril Victoria Rodríguez Aguirre*

**A)** Medidas para conciliar la paz entre las Fuerzas Armadas Revolucionarias de Colombia-Ejército del Pueblo (FARC-EP) y el gobierno de la República de Colombia con énfasis en salvaguardar los derechos humanos de los ciudadanos.
**B)** Estrategias para frenar las hostilidades desencadenadas por el control de las islas Malvinas entre Reino Unido de Gran Bretaña e Irlanda del Norte y la República de Argentina con énfasis en proteger los derechos de soberanía y los intereses de los poblado.

## United Nations Office on Drugs and Crime
*President: Valeria Arroyo Jerez*

**A)** Strategies to curb and counter migrant smuggling coordinated by criminal organizations, with emphasis on the South and Central America to North America route.
**B)** Approaches to prevent and counter the spread of Xylazine and Fentanyl in North America with preeminence in Philadelphia's "Zombie zone".

## CONSEJO ECONÓMICO Y SOCIAL
*Subsecretary General: Catherine Romina Espinoza Mora*
*Coordinating Supervisor: Brenda Noreña Mejía*

### Comisión de Prevención del Delito y Justicia Penal
*Presidente: Miranda Senties Carmona*

**A)** Estrategias para disminuir la actividad del crimen organizado trasnacional en la Triple Frontera, entre la República del Paraguay, la República Argentina y la República Federativa de Brasil debido al problema del control territorial ocasionado por la insuficiencia en el imperio de la ley y corrupción.
**B)** Acciones para erradicar cualquier sistema de tortura a prisioneros en los centros penitenciarios efectuado por el personal de seguridad en la República Árabe Siria.

### Organización Mundial de la Salud
*Presidente: Aranza Michelle Castro Rivero*

**A)** Medidas para mejorar la salud mental en adolescentes con énfasis en la eliminación de trastornos psicológicos tras los efectos del confinamiento de la pandemia de COVID-19.
**B)** Estrategias para priorizar el acceso a los servicios de salud sexual reproductiva en zonas rurales de Latinoamérica y el Caribe.

## Human Rights Council

*President: Regina Lacorte Mariscal*

**A)** Measures to stop the displacement of families caused by organized crime in vulnerable communities in the United States of Mexico

**B)** Actions to ensure the human rights of prisoners after the approval of the Exception Regime in the Republic of El Salvador, focusing on the so-called "conflict against gangs" headed by the government of Nayib Bukele.

## Comisión Económica y Social para Asia y el Pacífico
*Presidente: Giovanna Gamboa Molina*

**A)** Estrategias para implementar un desarrollo de proyectos que aumenten el comercio e infraestructura en Asia y el Pacífico debido a que las zonas productivas se han visto afectadas por los desastres naturales.

**B)** Medidas para mejorar la calidad de vida de las personas de bajos recursos en las estructuras institucionales de salud y vivienda debido a los conflictos territoriales entre la República Kirguisa y la República de Tayikistán.

## United Nations Convention Against Corruption
*President: William Vázquez Hernández*

**A)** Measures to reinforce and criminalize any act deemed corrupt in Latin America on the police department focusing on the systematic and police-citizens variants.

**B)** Measures to stop the theft of assets executed by the government in the Republic of Equatorial Guinea coming from the oil industry causing a defunding on education and health sectors.

## Foro Político del Alto Nivel para el Desarrollo Sostenible
*Presidente: Sara Sofía Govantes Cruz*

**A)** Medidas para detener y prevenir el impacto que tiene la moda rápida en Europa y Asia, con énfasis en las tres dimensiones de desarrollo sustentable.

**B)** Acciones para impulsar el turismo sostenible con énfasis en los Pequeños Estados Insulares en Desarrollo del Caribe.

## Commission on Science and Technology for Development
*President: María José Parra Meza*

**A)** Strategies to replace animal testing with new technological developments in the makeup industry in Latin America, the European Union and the People's Republic of China.

**B)** Measures to improve the challenges of the labor market due to new sciences and technologies, adapting workers to them with an emphasis on Europe and North America.

## AGENCIAS ESPECIALIZADAS Y ORGANISMOS REGIONALES
*Subsecretary General: Bruno Ramírez Barcelata*
*Coordinating Supervisor: María Fernanda García Bautista*

### Organización de las Naciones Unidas para el Desarrollo Industrial

*Presidente: María Sigaru Alcantara Nieva*

**A)** Medidas para reducir los efectos adversos por desastres ecológicos a causa de la industrialización química con énfasis en la República de la India, Japón y el Estado de Kuwait

**B)** Estrategias para impulsar el desarrollo industrial sustentable con el fin de reducir los altos índices de gases de efecto invernadero en América Latina y el Caribe

### Organization for the Prohibition of Chemical Weapons
*President: María Fernanda Vázquez Trejo*

**A)** Measures to solve the multiple attacks of chemical weapons on the Syrian Arab Republic, focusing on the chemical problem of Khan Sheikhoun in 2017

**B)** Measures to prevent the usage of neurotoxins as weapons, emphasizing the novichok attacks led by the Russian government

### International Criminal Police Organization
*President: Mariana Carolina Guerrero Zárate*

**A)** Measures to halt the growth of human trafficking networks in Southern Asia, with emphasis on organ trafficking

**B)** Strategies to cope with the massive firearms trafficking in Latin America, focusing on the triple border between Paraguay, Brazil and Argentina

### Comité Internacional de la Cruz Roja
*Presidente: Silvia Alejandra Delgado López*

**A)** Medidas para proteger a las víctimas y desplazados después de la toma de control del partido Frente de Liberación Popular de Tigré en la República Democrática Federal de Etiopía.

**B)** Acciones para garantizar el bienestar y salvaguardar la dignidad de los afectados por el conflicto civil en la República Árabe Siria en los campos de refugiados, así como en las rutas utilizadas.

### Organización del Tratado del Atlántico Norte
*Presidente: Paulette Mayen Álvarez*

**A)** Fortalecimiento de estrategias para la protección de civiles en el conflicto armado entre la República de Serbia y la República de Kosovo, con énfasis en el mantenimiento de la paz

**B)** Estrategias para contrarrestar los ciberataques hacia la República de Ucrania en el ciberespacio; dentro de la problemática de la Federación de Rusia y sus consecuencias, con el fin de salvaguardar la información del Estado y la OTAN

### Security Council
*President: Yésika Pamela García Trejo*

**A)** Actions to mitigate the crisis in Lake Chad Basin, addressing violence, economic recovery and security restoration

**B)** Strategies for the prevention of nuclear accidents with an emphasis on Russia, France and USA

**International Criminal Court**
*President: Manuel Alejandro Grajales Santillán*

**A)** The Prosecutor v. Saif Al-Islam Gaddafi
**B)** The Prosecutor v. Patrice-Edouard Ngaissona Abdel Raheem Muhammad Hussein

*"When one does something with one's heart, one should feel proud."*

*-Fernando Alonso Diaz*

*For you:*

6 years ago I was starting my adventure in the world of Model United Nations. I remember very much my first model, I was the delegate of Guinea Bissau in a UNESCO committee. We were looking for solutions for the theft of marine archaeology. That sixth grader, who almost cried his first time going to the list of speakers, today is the Secretary General of the largest Model United Nations in Latin America, TECMUN.

When I started in Model United Nations it was a world full of uncertainty, but little by little I got deeper, until I got here, it has been a long road, but it has been worth it. Along the way I have met many people who have inspired me, now it is your turn to inspire me. Thanks to you, I am still here, I want to thank you for inspiring me to continue to stand in front and follow a dream.

For you, delegation, embassy, judge, agent or defender; whether it's your first time in a model or your tenth, I hope these 3 days of debate and hard work will pay off. First of all, I would like you to feel **proud** of the work you have done, standing up in a forum is not easy, and you are the **brave** ones who do it. Feel even braver for becoming, even if only in 3 days, agents of change, for daring to raise your placard in moderate caucus, for having **initiative** to negotiate in simple caucus and for making your proposals, that, even if they sound very crazy, try to **change the world.**

I invite you to take advantage of this opportunity, to enjoy these 3 days and not to take this model as just another task or as an obligation of your school, but to **have the initiative and be brave enough to dare to change the world.**

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Santiago Gutiérrez Caycedo
Secretary General for the
XXXI TECMUN Jr.

Dear participant:

I hope these three days will be more than a United Nations model, you have probably heard this at TECMUN before, or if it is your first time here, prepare to hear over and over again that TECMUN will change your life, or at least the following years. Maybe the phrase sounds very cliche, or maybe you think it is not true, but let me tell you that at least for me, it did change my course. You do not realize the great impact that something has on your life until it starts to end, and this being my penultimate TECMUN after two years as part of the Secretariat, I can say that nothing would have been the same without this family.

This United Nations model goes beyond assuming the role of a delegation and maintaining a position, it is also about recognizing alternate realities to our own and being able to recognize the power we have. In such a chaotic world, it is important that we always keep in mind that not all people live in the same reality, unfortunately, some face difficulties day by day, while others live in comfort and luxuries. Today more than ever we must raise our voices as new generations, it is of the utmost importance that we fight for a better world for ourselves and for the generations to come; because this is not about being selfish and looking out only for ourselves, but also taking care of the future of the next people who will be in this world.

It is very easy to hate something or someone, hate something you do, create a hate speech, promote discrimination, but the most difficult thing will always be to love, to love what you do, to love who you do it for, or to love yourself. And when you manage to love yourself, love what you do and for whom and why you do it, then you will have won.

If there is something that I want you to take into account during these three days, I want you to know that there is nothing more valuable than fighting for what you love, be it a cause or a hobby, never allow anything or anyone to take away your love for what you are doing. From my own experience, please never give up on what you are passionate about, because for a reason you have come so far and for a reason you are putting so much effort into what moves your soul and mind every day.

I hope with all my heart that you enjoy these three days of the model to the fullest, I hope that you meet new people, realities that are different from yours, or better yet, that you find that motivation to continue wanting to change the world. Believe me, there is no more satisfying achievement than impacting those around us.

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Lía Naomi Mejía Vargas
Chief of General Coordination for the
XXXI TECMUN Jr.
*"Qué maravilloso es que nadie tenga que esperar ni un segundo para empezar a mejorar el mundo"*

Delegation,

Let me express my gratitude for taking the time to read these words and reflect on the importance of action in our world today. In these complex and changing times, it is true that the world needs more than empty promises. We need to make the commitment to act, to take charge and make a difference. Often, we find ourselves surrounded by rhetorical speeches, but it is concrete acts that really generate an effective impact on our environment.

There may be a number of reasons why we are here, but regardless, we must take this opportunity to grow, learn and leave our mark. It is not always easy to be part of a group or community, especially when participation is low, but it is in those moments that our courage and perseverance are most relevant.

Passion is a powerful engine that drives us to give the best of ourselves. If you are passionate about this space, if you find satisfaction in debating, defending your points of view and solving problems, then you have discovered an invaluable treasure. Passion is an indicator that you are on the right path, and when we find what we like to do, the desire to create change becomes an unstoppable force. On this journey towards discovering our true vocation, we must not lose sight of the importance of our actions. Words can be powerful, but it is actions that transform the world. Each small step we take towards a goal can have a positive impact on our lives and on the lives of others. Said like this, it is an honor and a privilege to be gathered once again in this meeting that transcends borders and allows us to imagine a world more united and collaborative. TECMUN, much more than a simple academic event, is a space where passion, leadership and the genuine desire to make a difference converge. Today, I invite you to give TECMUN a chance and allow this transformative experience to touch your lives as it did mine. Open your minds and hearts to new perspectives, as this is not just an event, it is a journey towards self-discovery and personal empowerment.

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Catherine Romina Espinoza Mora
Subsecretary for the Economic and Social Council
for the XXXI TECMUN Jr.

*"Things don't have to change the world to be important"*
*-Steve Jobs*

Dear delegate,

First of all, I want to welcome you to TECMUN and express my deep admiration for being a part of a project like this. Not everyone has the courage and determination to face current problematics and work as a team to try to look for possible solutions. Even when these solutions don't trespass our debating rooms, we all have the potential to make a change. Don't be afraid to exploit all this potential, not only during the model but everyday. In these three hard-working days you will be challenged to think critically, listen empathetically and communicate effectively; always remember that every voice matters, and I encourage you to express your ideas passionately while respecting the diverse viewpoints of others.

I also want to thank you for letting me be your guide through these three days, and if I could give you just one advice for this model it would be, enjoy it. It doesn't matter why you are here, maybe you are very passionate about TECMUN or maybe you ran across it by accident or maybe your school is making you take it, whatever the reason is just try to make it a lifetime experience. Take this chance to interact, network, and learn from your fellow delegates. Remember that TECMUN is not just about winning awards; it is about personal growth, expanding your horizons, and embracing the values of diplomacy, understanding, and cooperation. Embrace the challenges ahead with enthusiasm and a commitment to excellence. Take risks, seize opportunities, and let your voices be heard.

I genuinely hope you embrace the full potential of this model and gain something valuable from it. Remember, you can always rely on the Chair for support. With that, I can only say thank you and wish you the best of luck!

María José Parra Meza

President of the Commission on Science and Technology for Development

for the XXXI TECMUN Jr.

# Background

The United Nations Commission on Science and Technology for Development (CSTD) is a subsidiary of the Economic and Social Council (ECOSOC). It was founded in 1992 when the General Assembly wanted to reflect its goal of providing advice on issues; relating to international science and technology. The CSTD is responsible for the promotion, regulation, and providing the necessary recommendations to achieve economic, political, and social progress using new implementations to maintain order and take full advantage of the progress of all the members of the United Nations. The United Nations Commission on Science and Technology is a free forum where initiatives, thoughts, cases, experiences, and intellectual debate direct it toward influencing policy. In addition, it makes it easier for member governments, NGOs, and players in the development, research, and technology sectors to work together; all based on the previous investigations the commission initiates.

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## Faculties

United Nations Commission on Science and Technology for Development is entitled to:

- Discusses the most effective strategies, the lessons learned, the challenges that were faced, the steps taken to overcome them, and the significant steps that will be taken to continue putting the Summit's conclusions into practice.

- Review and evaluate the actions, suggestions, and pledges contained as they relate to implementation at the global and regional levels.

- Supports communication and dialogue, in concert with other pertinent United Nations funds, programs, and specialized organizations, to assist in achieving the Summit's goals.

- Increase knowledge of science and technology policies, especially as they relate to developing nations, within the framework of the United Nations, suggestions and guidelines on science and technology remain important.

- Keeping with their respective roles and responsibilities, governments, the private sector, civil society, the United Nations, and other international organizations should participate in the objectives, implementation of its recommendations, and use of information and communication technologies for development and the achievement of internationally recognized development goals.

## Topic A

Strategies to replace animal testing with new technological developments in the makeup industry in Latin America, the European Union and the People's Republic of China.

*By: María José Parra Meza*
*Daniela García Arana*
*Mónica Vega Díaz Soto*

*Introduction*

Animal testing refers to procedures carried out on living animals for the purposes of basic biology and disease research, evaluating the efficacy of new pharmaceutical products and testing the human health and/or environmental safety of consumer and industrial products such as cosmetics, household cleaners, food additives, pharmaceuticals and industrial/agro-chemicals[1]. Furthermore, animal experimentation has been used for decades and has significantly aided in the advancement of medicine, including the development of vaccines, therapies for a variety of diseases and surgical techniques. Actually, it has particularly resulted in the advancement of human and animal health. On the contrary, animal experimentation is controversial due to ethical concerns and the possibility of animal suffering.

Animals are subjected to a variety of treatments in these investigations, including injections, force-feeding, gas inhalation, surgical operations and exposure to potentially dangerous substances. The purpose of these tests is to observe the impact of the tested chemicals on the organs, systems and overall health of the animals. Before using products or therapies on humans, researchers examine the results to get insight into the potential hazards[2], efficacy and safety. Nonetheless, animal testing is a contentious technique due to ethical considerations and the possibility of animal suffering.

In recent years, there has been a growing emphasis on reducing, and then replacing animal testing. By implementing the "Three Rs" principles: replacement (finding alternative methods), reduction (minimizing the number of animals used) and refinement (improving

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[1] **Agro-chemicals:** A chemical that is used in farming to help grow crops or fight insects. (Cambridge Dictionary).

[2] **Hazards: S**omething that is dangerous and likely to cause damage. (Cambridge Dictionary).

animal welfare and reducing suffering during experiments). Regulatory bodies and scientific communities are working hard to promote the ethical use of animals in research and whenever possible, to investigate alternative testing methods. Since it has been proven that animal testing isn't always necessary in some cases.

## *Animal testing in the makeup industry*

According to Humane Society International, cosmetic experimentation causes 100,000 to 200,000 animals to suffer and die every year. In these tests, chemicals are poured down the animals' throats, into their eyes and onto their shaved skin to chronicle[3] their reactions and confirm their safety for human consumption. These tests establish whether or not these items create widespread disease or health risks such as cancer or birth problems. They also do lethal dose studies, in which animals are forced to ingest enormous amounts of a test substance in order to determine what quantity is deadly. These studies can cause animals to suffer from excruciating pain, anguish, blindness, enlarged eyes, painful and bleeding skin, internal bleeding, organ damage, abnormalities, convulsions and even demise.

Investigations studying the toxicity of different ingredients in the products, with the premise that the effect of a product or substance on animals reflects what will happen in people is often wrong. Some of the legally mandated animal experiments have not been validated, which means that their scientific basis, reliability and applicability to people have not been adequately shown. Makeup companies frequently have their animal testing done in another country by an outside company. This allows large corporations to maintain their cruelty-free[4] status. This also helps them avoid violating multiple framework regulations that

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[3] **Chronicle:** To make a record or give details of something. (Cambridge Dictionary).
[4] **Cruelty-free:** Developed or produced without inhumane testing on animals. (Merriam Webster).

they may encounter in the location where they are established. As a result, they indirectly contribute to animal testing.

Latin America has recently emerged as one of the most important cosmetics industry markets, with a projected market size of $56,89 billion USD by 2035. The region will establish itself as one of the markets with the strongest growth in beauty and skin care product sales, with Federative Republic of Brazil and United Mexican States playing a big role, with an exceptional compound annual growth rate of 5.72 % from 2022 to 2035. The regulatory framework for animal experimentation in the makeup business differs by country in Latin America. However, animal testing is required for some cosmetic items or substances in some countries, including the Federative Republic of Brazil, Argentine Republic and Republic of Chile.

### *New technologies that seek replace animal testing*

There have been different technologies that have emerged with the objective of replacing animal experimentation to decrease the use of it. One of the most used alternatives is computer modeling, since it is cheaper, faster and besides not hurting any living being, more accurate tests can be done, since the skin or fur of animals is not the same as that of humans. Nonetheless, technology not only helps to make tests, but also biotechnological technologies have provided innovative ingredients and products for the cosmetics industry, less toxic or even with one hundred percent natural ingredients. This has generated cosmetics that instead of harming provide health benefits.

Furthermore, there exist more alternatives to animal testing in research. Another precedent is in vitro testing, which consists of actual human cells testing the toxicity or irritation of different chemicals. Additionally, this method also allows researchers to simulate

the structure and function of specific organs or systems of the human body, such as the skin. Therefore, researchers can use this method to further investigate reactions of specific substances without the need of animal testing.

Artificial intelligence and machine learning are also being studied as a replacement for animal testing in the cosmetic industry. Artificial intelligence has the capacity of analyzing vast amounts of existing data on cosmetic ingredients and their effects to predict toxicity, allergenicity and other possible reactions. As well, machine learning algorithms can identify patterns and correlations. Which allows assisting in the development of safer and more effective cosmetic products.

Similarly to in vitro testing, bioprinting is a new technology that looks to produce functional human tissues as an alternative to animal experimentation in the field of biomedical research. Researchers have been able to find a way to 3D print human tissues. Despite this new technology is still being investigated and has different purposes, researchers have been able to print human skin. Which drives the replacement of animal testing not only in biomedical research, but in the cosmetic industry too by being a more reliable system to test different cosmetic products since it's made from human cells.

Genomics and proteomics feasibility is also being investigated for the replacement of animal testing for assessing consumer safety. Researchers can better understand how cosmetic ingredients interact with human cells and tissues by studying the genes and proteins involved in various biological processes. At the molecular level, genomic and proteomic techniques can provide insights into the potential effects of cosmetic products. New paradigms may be established to enable risk assessment to support consumer safety choices without the use of animal experiments.

Evidently, replacement with computer modeling because it is used as a replacement for animals. Reduction because by replacing animals with computers or simulations it is no longer necessary to use animals and their experimentation is reduced with the process and objective of annulling it. Finally, refinement which according to the *Real Academia Española de la Lengua* is the process of purification by separating, in the case of the cosmetic industry, heterogeneous materials, achieved through the use of biotechnological technology for the creation of new natural or less harmful products. Considering that the Three Rs can be achieved through technology and that this alternative does not affect but rather benefits the process and efficiency of makeup production, the only problem is to help raise awareness[5] and convince all those companies and laboratories that are still closed to the idea of using animals to experiment and test their products as well as countries to implement laws against animal experimentation, since 80 % of all countries still allow it.

*Global progress in replacing animal testing*

Globally, there has been substantial success in attempting to replace animal testing with alternate options in recent years. Several regions, countries and organizations have taken steps to minimize or eradicate animal testing in industries such as cosmetics, pharmaceuticals and chemicals. For instance, The European Union (EU) has been at the forefront of efforts to ban animal testing. The EU restricted animal testing for cosmetic products and ingredients completely in 2013, making it illegal to test completed cosmetic products or their ingredients on animals within the European Union. The EU Cosmetics Regulation also prohibited the sale of cosmetics that have been tested on animals, even if the testing was done outside of the European Union. This prohibition has played an important role in setting alternative testing procedures around the world.

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[5] **Awareness:** Knowledge that something exists, or understanding of a situation or subject at the present time based on information or experience. (Cambridge Dictionary).

Likewise, significant progress has been made in the United States of America toward reducing and replacing animal testing. The United States of America Environmental Protection Agency (EPA) declared in 2020 that it would phase out all mammalian animal testing by 2035 and invest in the research and implementation of alternative testing methods. In addition, the EPA has launched the ToxCast and Tox21 programs. Both programs use in vitro and computational approaches to screen substances for possible toxicity, minimizing the need for animal testing.

The People's Republic of China has also made significant progress in reducing the demand for animal testing in cosmetics. The National Medical Products Administration (NMPA) approved the first non-animal alternative technique for assessing the safety of cosmetic ingredients in 2021, allowing companies to substitute animal testing with a human cell-based testing approach. This marks advancement in China's efforts to accept alternative testing methods and conform with global norms. Furthermore, shifting to alternate testing methodologies can provide economic and competitive advantages. Countries that adopt cruelty-free methods might attract consumers who value ethical products, increasing market competitiveness.

Consumers in Latin America are increasingly concerned about animal welfare and the ethical consequences of animal testing. According to a Humane Society International survey, 80 % of Latin American consumers agree that cosmetics should be cruelty-free. The market for cruelty-free cosmetics in Latin America is growing. As reported by Euromonitor International, ethical labels such as cruelty-free and vegan are becoming more popular in the region's cosmetics industry.

The global movement to replace animal testing in the makeup industry with new technological developments is gaining momentum. Latin America now has the opportunity

to join the global movement that seeks to restrict animal testing in the cosmetics industry. Countries can improve animal welfare, promote innovation and meet the growing demand for cruelty-free cosmetics by implementing new technological strategies. Latin America has the potential to become a global leader in adopting new technological developments and contributing to the global goal of eliminating animal testing in the cosmetics industry.

# *References*

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## Topic B

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Measures to improve the challenges of the labor market due to new sciences and technologies, adapting workers to them with an emphasis on Europe and North America.

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*Introduction*

The labor market is undergoing significant transformations as a result of advances in new sciences and technologies. The integration of automation, artificial intelligence, robotics, and other emerging technologies are presenting both opportunities and challenges for workers all over the world. New sciences and technologies have the potential to streamline processes, increase productivity, and drive economic growth. However, it also brings with it challenges such as job displacement, skill gaps, and a requirement for personnel to learn new and specialized abilities in order to compete in a constantly evolving job market. Adapting workers to these changes has become a priority to ensure a resilient and adaptable workforce.

Although Europe and North America are known for technological advancements, they also face particular difficulties maintaining their labor markets adaptable. Policy initiatives are being pursued to address these challenges and create equitable labor markets for workers. The emphasis is on promoting lifelong learning, increasing labor mobility, and ensuring social protection and well-being. The implementation of effective measures to improve the challenges of the labor market due to new sciences and technologies is crucial for ensuring the adaptability and advance of workers in Europe and North America.

*Emerging technologies implemented in North America and Europe*

The European Union and the United States have signed an Administrative Arrangement on Artificial Intelligence and Computing to address global challenges for the public benefit in the domains of climate change, disasters, healthcare, energy, and agriculture. Artificial intelligence (AI) is the study of developing computers and robots that can mimic and exceed

human capabilities. Without the need for human participation, AI-enabled applications may analyze and interpret data to offer information or trigger actions. They are already in use in a number of industries, including health care, finance, and transportation. These technologies can be used to automate operations, make predictions, and analyze data, among other things

Machine learning is a subcategory of AI that uses algorithms[6] to automatically obtain insights and recognize patterns in data. Then, apply that learning to generate more accurate conclusions. Programmers study the limits of how much they could improve a computer system's perception, cognition[7], and actions by researching and experimenting with machine learning. To take it a step further, deep learning is an advanced method of machine learning. Where machines are able to employ massive neural networks,networks that act logically interpret data like a human brain, to understand complicated patterns and generate predictions independent of human input. *Centers for Disease Control and Prevention* in the United States of America has been able to improve speed and accuracy surveillance, accelerate outbreak response, enhance COVID-19 vaccine safety monitoring and optimize case definitions through artificial intelligence and machine learning.

Other examples of new technologies implemented in Europe and North America include remote work applications and collaborative activity platforms, which make it easier to share files, coordinate projects, and have seamless communication. As a result, data-analyzing devices were developed, which are now utilized by organizations to get insights into external and internal market trends, consumer behavior, and internal operations. Organizations employ data analytics tools to make data-driven decisions, streamline

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[6] **Algorithm:** A set of mathematical instructions or rules that, especially if given to a computer, will help calculate an answer to a problem. (Cambridge Dictionary).
[7] **Cognition:** The use of conscious mental process. (Cambridge Dictionary).

processes, and identify development opportunities. In addition, they have been implementing infrastructure designed specifically for telecommuting, since as long as remote work remains an essential component of the labor market, businesses are investing in the infrastructure and systems required to support safe data exchange, virtualization, and collaboration.

Furthermore, intelligent automation and robotic process automation have also emerged as new effective technologies. Robotic process automation (RPA) employs intelligent mechanization to replicate administrative tasks performed by human workers, such as data extraction, form completion, file movement and others. It integrates and performs repetitive operations between organizations and productive applications by combining Application Programming Interface (APIs) and user interface (UI) interactions. This type of automation employs rule-based software to execute high-volume business process operations, freeing up workers to prioritize more demanding job performance. RPA helps companies to speed their digital transformation initiatives while increasing the return on investment (ROI) from their employees.

Similarly, quantum computing is another way to carry out data operations employing quantum-mechanical processes. This technology has the potential to address issues that are now too complicated for traditional computers. Quantum computing can help develop countries in different aspects. It's being researched in domains including medication development and financial modeling. may be used to simulate chemical processes and protein folding, both of which are important in the development and discovery of medicines. This might assist to speed up the process of getting new pharmaceuticals to market, perhaps leading to considerable improvements in the supply of healthcare. Besides, this technology allows financial firms to come up with more informed investment choices, train machine

learning models advancing artificial intelligence and related domains, and is also valuable for security applications such as password cracking and data encryption.

Another technology that has been implemented is The Internet of Things (IoT), because it has the ability to transform a whole region in an extensive number of ways. Smart cities that are more efficient, sustainable, and suitable may be built with IoT technology. It could involve the installation of sensors and other IoT devices to monitor and control municipal systems such as transportation, electricity, and water. IoT devices are typically used to monitor and track the functioning of industrial equipment, allowing businesses to anticipate when repair is necessary and save costly downtime. This can be employed for tracking and monitoring environmental factors such as air and water quality, as well as to warn authorities to potential hazards. IoT technology could possibly be used to monitor and manage patient health, allowing for remote patient care and enhancing healthcare system efficiency.

And lastly, another example of these is blockchain technology. Blockchain technology is a decentralized, secure method of storing and processing data that is becoming more popular. Blockchain technology has the potential to improve interest and accountability by tracking the movement of items along the supply chain. This is particularly important in the food enterprise, where traceability is crucial to ensuring food safety and quality. Blockchain systems can be employed to reliably store and handle patient data, allowing healthcare workers to effectively and securely access and exchange information. This could help to improve care quality and minimize the possibility of errors. It can also facilitate online transactions and the verification of identities in locations where traditional identification systems may be deficient.

These types of new technologies have been helping to improve the working conditions of people in Europe and North America, as well as have helped to transform how the industry works, allowing them to adapt to the changing dynamics of the labor market and improve all the aforementioned aspects as well as the satisfaction of the employees. It's crucial to remember that different industries and geographical areas may have varied levels of acceptance and influence of these technologies. However, these technological advancements have also introduced challenges to the labor market. The implementation of automation and artificial intelligence has led to concerns about job displacement and changing skill requirements. According to a study by the Organization for Economic Co-operation and Development (OECD) approximately 14% of jobs in OECD countries are at high risk of automation, while an additional 32% could face significant changes in task composition.

### *Struggles[8] employees face with the new technologies implemented*

The incorporation of new technologies in the workplace has resulted in substantial changes and challenges for workers in a variety of industries. While these innovations have the potential to help employees, it is critical to recognize the challenges they encounter as they adjust to and negotiate the expanding technology landscapeManufacturing, logistics, and transportation are among the industries that have benefited from automation because repetitive and manual tasks are easily automated. This has resulted in the displacement of some employees as well as a shift toward more technologically advanced operations. By automating routine tasks and decision-making processes, artificial intelligence has had an impact on knowledge-based industries such as finance, legal services, and customer support.

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[8] **Struggles:** To experience difficulty and make a very great effort in order to do something. (Cambridge Dictionary).

Workers are also concerned about job displacement due to technological advancements and artificial intelligence. As a result of the rise of automated systems and intelligent robots, certain job roles are becoming obsolete. According to World Economic Forum research, automation could result in the displacement of approximately 85 million jobs by 2025, primarily in administrative and routine manual labor around the world.

The expanding skills gap created by the quick speed of technology improvements is one of the key challenges for workers. Workers frequently lack the requisite training and understanding to efficiently use new technologies as they are introduced. As a result, there is a mismatch between workers' previous talents and the demands of their changing roles. According to a McKinsey survey, a global strategic consulting firm that specializes on strategic management difficulties, nearly 40 % of businesses worldwide struggle to recruit employees with the appropriate technical abilities.

These labor market disruptions have raised concerns about income inequality and social inclusion. Workers' struggles are exacerbated[9] by inequity and accessibility issues. Indeed, certain groups of workers, such as those with lower educational attainment or in vulnerable employment, may struggle to adapt to changing labor market dynamics if proper measures to address these challenges are not implemented. According to a survey conducted by the European Foundation for the Improvement of Living and Working Conditions, workers with lower education levels and older age groups are less likely to obtain digital training,

*Outcome*

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[9]  **Exacerbate:** To make something that is already bad even worse. (Cambridge Dictionary).

Collaboration between the public and commercial sectors is critical for developing effective training programs and encouraging innovation and entrepreneurship. Public-private collaborations can encourage the creation of in-demand skills, foster knowledge exchange, and help new enterprises expand. Beyond that, in the face of labor market upheavals, it is critical to prioritize social protection and well-being of the laborers. Social safety nets, fair labor rules, and fostering work-life balance are critical components for assuring workers' ability to adapt to new sciences and technologies without jeopardizing[10] their overall well-being.

Overall, workers adaptation to new sciences and technologies necessitates a comprehensive and collaborative approach. Fostering inclusive and sustainable labor markets is critical for fully utilizing the potential of technological advancements while mitigating the resulting obstacles. This goal will be achieved through collaborative efforts as well as a steadfast[11] commitment to lifelong learning, innovation, and social protection. Such initiatives seek to develop an environment in which workers can prosper and societies can fully benefit from the transformative power of new sciences and technologies.

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[10] **Jeopardize:** To put something such as a plan or system in danger of being harmed or damaged. (Cambridge Dictionary).

[11] **Steadfast:** Staying the same for a long time and not changing quickly or unexpectedly. (Cambridge Dictionary).

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