

INGLÉS III

INGLÉS PARA LA COMPRENSIÓN Y TRADUCCIÓN DE TEXTOS

CUADERNILLO DE TRABAJOS PRÁCTICOS

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TRABAJO PRÁCTICO N° 1

- **Frase Nominal:** El sustantivo, plurales, sustitutos del sustantivo, pre y posmodificación.

1	3	2	4
▼	▼	▼	▼
A –An – the This-that-these-those My, your, One, two, First, second, third, . Some, any, no Every, each Several, A lot of, many, much Other, another, Little, few Both, either, neither Same, different, various	 Adjetivos, sustantivos (función adjetiva)	Sustantivo *	Punto Conjunción Verbo Pos modificadores (-ed, -ing, that, which, who, where, when, whose, etc. o frase preposicional)
Aquí vamos a marcar las preposiciones, conjunciones, signos de puntuación y además las palabras (-ing, -ed) que introducen posmodificadores. Salt content dependent dielectric properties of pistachios relevant to radio-frequency pasteurization.			

A. Traduzca las siguientes frases nominales. Todas son títulos de trabajos de investigación.

1. **Robotics and Parallel Kinematic Machines.**
3. **Optimal operation and control of smart energy systems.**
Hongxun Hui, Tao Chen, Han Wang, Sheng Wang

4. **New technology for ship bilge and oily water separation**
Oleksiy Vladimirovitch Malakhov, Oleksand Mukolaiyevitch Palagin, Andrii Igorevitch Naydyonov, Konstantin Andreevitch Lykhoglyad, Andrii Vladimirovitch Bondarenko

5. **Collection in Honor of Women's Contribution in Robotics.**

6. **Progress towards sustainable energy storage: A concise review**
Oladipo Folorunso, Peter O. Olukanmi, Thokozani Shongwe

7. **Season influence on rapid thermal sensation assessment by young adults**
Denis A. Coelho, Pedro D. Silva

8. **The mechanics and durability of rubber fiber hydraulic concrete on laboratory**
Jingkui Zhang, Changshun Liu, Jugang Luo, Juncai Xu

9. **Finite-time coordination controls for multiple autonomous underwater vehicle systems**
Bo Chen, Jiangping Hu, Bijoy Kumar Ghosh

10. **Human Factors in Domain Adaptation Within the Oil and Gas Industry**

11. **A New Ignition Source for the Determination of Safety Characteristics of Gases**
Stefan H. Spitzer, Gerald Riesner, Sabine Zakel and Carola Schierding

12. **Application of Innovative Technologies in Construction Project Management**

13. **Thermal regulation capacity of a green roof in the Mediterranean climate of Istanbul**
Pavel Iokhim, Mert Ekşi

14. **Study on combustion and emission characteristics of a micro-rotary cam internal combustion engine**
Hua Zhu, Ming Yang, He Hao, Lu Chen

15. **Office Design Features and Future Organizational Change toward Sustainability**
Adel M. A. Binyaseen

16. **Simulation study of water and gas injection process into the Azadegan reservoir for enhanced oil recovery**
Farshad Farahbod

17. **Surgical Staplers in Laparoscopic Colectomy: A New Innovative Flexible Design Perspective**
Dhruva Khanzode, Ranjan Jha, Alexandra Thomieres, Emilie Duchalais and Damien Chablat

18. **Remote Instantaneous Power Consumption Estimation of Electric Vehicles from Satellite Information**
Franco Jorquera, Juan Estrada and Fernando Auat

19. Assessment of electrical power generation in various regions of Nepal through solar organic Rankine cycle technology

Suresh Baral

20. The spatial diffusion of “multi-station integration” and sustainable development: From the perspective of eight economic zones in China

Jinhua Jian, Pingkuo Liu, Jianchao Hou

21. Effect of Actual Recuperators' Effectiveness on the Attainable Efficiency of Supercritical CO₂ Brayton Cycles for Solar Thermal Power Plants

George Stamatellos and Tassos Stamatelos

2. Lea el siguiente texto y en las oraciones subrayadas, identifique las frases nominales y sus componentes. Traduzca las oraciones subrayadas.

Foreword

Saeed M. Al Mubarak, in **Machine Learning and Data Science in the Oil and Gas Industry**, 2021

In the energy sector, the petroleum industry is still the most important source of energy and the provider of primary material to many industries. This industry is also influenced by the transformative technologies that offer tremendous potential to redraw not only the physical infrastructure but also the intellectual climate, business models, and asset management systems. This petroleum industry is very different from other industries. It is among the few industries that are perceived as generators of big data through the various phases from exploration to abandonment. It is an industry that has been treasuring all sorts of data for decades as it relies heavily on these data in managing its assets and running its operations. Companies in the petroleum industry are risk averse and have strict safety standards due to the nature of their business. None of these companies can afford to operate without appropriate decision-making processes that rely greatly on adequate technologies, experience, and data analytics. The recent advancements in the digital world including the increase in computer power and information processing, the speed of communication, and the reduction in cost of data storage; most of the companies in the petroleum industry expedited and extended their digital business with great ambitions to extract or generate new value and identify potential opportunities from both their old and new data augmented with either existing or new business models.

Glossary:

- **Foreword:** prefacio, prólogo.
- **Redraw:** redibujar, redefinir, redelinear, modificar.
- **Asset:** ventaja, bien, valor, recursos.
- **Treasure (V):** atesorar, acumular, guardar, acopiar, almacenar, acaparar.
- **Rely:** confiar, depende de, contar con.
- **Run:** funcionar, operar, ejecutar, gestionar, organizar, dirigir, gestionar, manejar algo algo.
- **Averse:** contrario, enemigo, opuesto, reacio, que aborrece.

- **Afford**: poder pagar, costear, enfrentar, encargar, permitirse
- **Expedir** (V): *facilitar*, enviar algo, promover, apresurar, expedir algo, apurar algo, acelerar, agilizar, aligerar algo, hacer más fácil algo, dar curso a algo.

C. Indique a qué hacen referencia las palabras o frases destacadas en las oraciones, aclarando qué se está describiendo.

1. Researchers have unveiled a design for manual wheelchair tires that combines² comfort, efficiency, and durability. Unlike conventional pneumatic tires, which require frequent air pressure maintenance and are prone to punctures, these concept tires⁴ utilize a honeycomb-like flexible spoke structure that absorbs impacts and vibrations.
2. Looking at high density urban cities, car parks often sit on valuable land that could generate a larger return on investment when redeveloped to meet changing requirements. With that in mind⁵, the need for vehicles is changing.
3. A good design company challenges the status quo, a great one⁶ changes the way we live for the better.
4. One of the biggest advantages⁷ of using drones for building inspections is the improved safety for workers.

1. This system	
2. That combines	
3. Which require	
4. These concept tyres	
5. With that in mind	
6. A great one	
7. One of the biggest advantage	

Afijos: funciones y significados sugeridos por los afijos

1. PREFIJOS (Cambian el Significado)		
Prefijo	Significado Principal	Ejemplos
un-	Negación / Inversión	unwind, unblock, unhappy
in- / im- / il- / ir-	Negación	inefficient, impossible illegal, irregular
dis-	Opuesto / Negativo	disagree, dishonest, disappear
de-	Revertir / Disminuir	decentralize, decrease
non-	Negación / Sin	nonsense, nonresident
pre-	Antes de	preview, prehistoric
re-	Repetición	redo, rewrite
mis-	Mal / Incorrecto	misunderstand, mistake

2. SUFIJOS (Cambian la Categoría Gramatical)						
A. Para formar SUSTANTIVOS (Nouns)						
Desde Adjetivos		Desde Verbos			Desde otros Sustantivos	
-ness, -ity	darkness	-er, -or, -ment, -tion, -sion, -ance -ence			-ship	friendship
-ty, -dom	purity	↓	↓	↓	-ist	artist
-hood	freedom	teacher	payment	examination	-hood	childhood
B. Para formar ADJETIVOS (Adjectives)						
Desde Sustantivos: -ff, -ic				Desde Verbos		
careful /		careless		-able / -ible	readable	
-ful (con), -less (sin), -y, -ic, -al, dirty		atomic		-ive	active	
C. Para formar VERBOS (Verbs)				Desde otros Sustantivos		
Desde Adjetivos / Sustantivos -ize / -ise, -ify, -en				legalize, simplify, shorten		
D. Para formar ADVERBIOS (Adverbs)						
Desde Adjetivos		-ly		quickly, happily		

F. Ordene las siguientes palabras según su función:

Palabras: stabilize, demonstration, advertiser, professionally, pollinate, unemployment, optional, classify, dependent, moisten, effective, clockwise, programmer, avoidable, assistant, dangerous, package, careful, endless, leadership, upward, denial, preference, refinery.

Verbo	Sustantivo	Adjetivo	Adverbio

Cognados, falsos cognados, términos transparentes.

Palabra en Inglés	Significado Real en Español	Falso Amigo Común (Confusión Habitual)
Actually	En realidad, de hecho	Actualmente (<i>traducción correcta: currently</i>)
Argument	Discusión, disputa, argumento lógico	Argumento en el sentido exclusivo de trama de una obra
Assist	Ayudar, auxiliar	Asistir a un evento (<i>traducción correcta: attend</i>)
Bizarre	Extravagante, estrafalario, raro, bizarro (en su acepción moderna)	Bizarro en el sentido tradicional de valiente o gallardo
Carpet	Alfombra	Carpeta (<i>traducción correcta: folder o binder</i>)
Casualty	Víctima, baja (en accidentes o conflictos)	Casualidad (<i>traducción correcta: coincidence</i>)
College	Universidad, facultad, colegio universitario	Colegio de educación primaria o secundaria (<i>traducción correcta: school</i>)
Comprehensive	Exhaustivo, completo, abarcativo	Comprensivo (<i>traducción correcta: understanding</i>)
Conductor	Director de orquesta, guarda (de tren o autobús)	Conductor de un vehículo (<i>traducción correcta: driver</i>)
Constipated	Estreñido	Constipado / con resfrío (<i>traducción correcta: cold o congested</i>)
Contest	Concurso, competencia	Contestar una pregunta (<i>traducción correcta: answer o reply</i>)
Convenient	Práctico, oportuno, adecuado, cómodo	Conveniente en un sentido de beneficio moral o provecho
Deception	Engaño, fraude	Decepción o desilusión (<i>traducción correcta: disappointment</i>)

Disgrace	Deshonra, vergüenza, descrédito	Desgracia como infortunio o tragedia (<i>traducción correcta: misfortune</i>)
Educated	Instruido, con formación académica	Educado en modales / cortés (<i>traducción correcta: polite</i>)
Embarrassed	Avergonzado	Embarazada (<i>traducción correcta: pregnant</i>)
Estate	Patrimonio, propiedad, finca	Estado político o condición física
Exit	Salida	Éxito en un proyecto (<i>traducción correcta: success</i>)
Fabric	Tela, tejido	Fábrica industrial (<i>traducción correcta: factory o plant</i>)
Facility / Facilities	Instalaciones, infraestructura, servicios, medios	Facilidades físicas del entorno
Firm	Empresa, firma comercial / Firme (rígido)	Firma autógrafa en un documento (<i>traducción correcta: signature</i>)
Gracious	Cortés, amable, clemente	Gracioso en el sentido de cómico o divertido (<i>traducción correcta: funny</i>)
Groceries	Alimentos, comestibles, víveres	Groserías o insultos (<i>traducción correcta: swear words</i>)
Idiom	Modismo, frase hecha, locución idiomática	Idioma como lengua o sistema lingüístico general (<i>traducción correcta: language</i>)
Injury	Lesión, herida física	Injuria en el sentido de ofensa verbal o calumnia (<i>traducción correcta: insult</i>)
Intoxicated	Ebrio, bajo los efectos del alcohol o drogas	Intoxicado por alimentos (<i>traducción correcta: food poisoning</i>)
Large	Grande (en tamaño o	Largo en extensión espacial o

	dimensión)	duración temporal (<i>traducción correcta: long</i>)
Lecture	Conferencia, clase magistral, exposición académica	Lectura de un texto o libro (<i>traducción correcta: reading</i>)
Library	Biblioteca	Librería de venta de libros (<i>traducción correcta: bookstore</i>)
Molest	Acosar, hostigar, abusar	Molestar o incomodar levemente (<i>traducción correcta: bother o annoy</i>)
Notice	Aviso, notificación, cartel	Noticia periodística (<i>traducción correcta: news</i>)
Novel	Novela (literaria)	Novedad (<i>traducción correcta: novelty</i>)
Office	Oficina, despacho	Oficio manual o profesión técnica (<i>traducción correcta: trade</i>)
Parents	Padres (madre y padre)	Parientes en general (<i>traducción correcta: relatives</i>)
Policy	Póliza (de seguro), directiva, norma	Policía de seguridad (<i>traducción correcta: police</i>)
Pretend	Fingir, simular	Pretender en el sentido de desear o aspirar (<i>traducción correcta: intend</i>)
Prospect	Perspectiva, posibilidad, candidato, cliente potencial	Prospecto comercial o folleto de un medicamento (<i>traducción correcta: leaflet</i>)
Realize	Darse cuenta, comprender	Realizar en el sentido de ejecutar o llevar a cabo (<i>traducción correcta: carry out</i>)
Resume	Reanudar / Currículum (<i>résumé</i>)	Resumir un texto (<i>traducción correcta: summarize</i>)
Sensible	Sensato, prudente, razonable	Sensible a los estímulos o emociones (<i>traducción correcta: sensitive</i>)

Sensitive	Sensible, susceptible, delicado	Sensato, prudente o razonable (<i>traducción correcta: sensible</i>)
Socket	Enchufe, portalámparas, cavidad	Soquete o media corta (<i>traducción correcta: short sock</i>)
Support	Apoyar, respaldar, sustentar	Soportar en el sentido de tolerar una carga o dolor (<i>traducción correcta: endure</i>)
Sympathetic	Compasivo, comprensivo, solidario, benevolente	Simpático en el sentido de agradable o gracioso (<i>traducción correcta: friendly</i>)
Sympathy	Compasión, empatía, condolencia	Simpatía o carisma personal (<i>traducción correcta: friendliness</i>)
Target	Blanco, objetivo, meta comercial	Tarjeta de crédito o identificación (<i>traducción correcta: card</i>)
Ultimate	Definitivo, máximo, fundamental	Último en una secuencia temporal (<i>traducción correcta: last</i>)
Vase	Florero, jarrón	Vaso para beber líquidos (<i>traducción correcta: glass o cup</i>)

TRABAJO PRÁCTICO N° 2

- **Frase Nominal compleja: Forma *-ing* con función denominativa (sujeto, objeto y complemento). Premodificación con *-ing* (forma gerundivo, Participios y adjetivos) Post Modificación deverbal**
- **.Funciones de *-ing* dentro de la frase verbal (repaso tiempos continuos);**
- 3. Funciones de *-ing* dentro de frases preposicionales, en títulos, como conector, en cláusulas elípticas y en adjuntos de modo.**

1	3	2	4
▼	▼	▼	▼
A –An – the This-that-these-those My, your, One, two, First, second, third, . Some, any, no Every, each Several, A lot of, many, much Other, another, Little, few Both, either, neither Same, different, various	Adjetivos, sustantivos (función adjetiva) -ing -ed	Sustantivo * -ing	Preposición Conjunción Verbo Pos modificador (adj, -ed, -ing, that, which, who, where, when, whose, etc.)

A. Traduzca las siguientes frases nominales complejas. Todas son títulos de trabajos de investigación.

1. Designing Quantum Entanglement at the Nanoscale
- 2.. Giving Robots Superhuman Vision Using Radio Signals
3. A Step Forward in Generating Solar-Powered Hydrogen
4. Electricity Generation by Attaching Device to Your Clothes
5. Fire-Risk Blocking Self-Powered Hydrogen Production System
6. Paving the Way to Extremely Fast, Compact Computer Memory
7. Plasma Heating Efficiency in Fusion Devices Boosted by Metal Screens
8. New Catalyst Developed for Sustainable Propylene Production from Biomass
9. Discovering Hidden Wrinkles in Spacecraft Membrane With a Single Camera

10. Breathing New Life Into Technology: New Way of Separating Oxygen from Argon
11. Big Leap Forward for Environmentally Friendly 'E-Textiles' Technology
12. Soft Microelectronics Technologies Enabling Wearable AI for Digital Health
13. A Novel Neural Network for Preserving Cultural Heritage Via 3D Image Reconstruction
14. Harnessing Microwave Flow Reaction to Convert Biomass Into Useful Sugars
15. Revolutionizing Heat Management With High-Performance Cerium Oxide Thermal Switches
16. Investigation on the mechanism of the load transfer behavior in reinforced metal matrix composites
17. New Battery-Free Technology to Power Electronic Devices Using Ambient Radiofrequency Signals
18. The Evolution of Green Energy Technology: Developing Three-Dimensional Smart Energy Devices With Radiant Cooling and Solar Absorption
19. Machine Learning and Data Science in the Oil and Gas Industry
- 20 A High-Energy Low-Sensitivity Zwitterionic Material Featuring a Superhydrogen-Bonding Network Structure

B. Traduzca las siguientes oraciones que contienen frases nominales complejas y palabras con -ing.

1. Scientists have developed a model capable of predicting the live cycles of high-energy-density lithium-metal batteries by applying machine learning methods to battery performance data.
2. Artificial Compound Eye Revolutionizes Robotic Vision at Lower Cost but Higher Sensitivity.
3. Data resulting from the remote sensing survey indicate significant ground deformation
4. Contamination detection tool merges synthetic biology and nanotech for ultrasensitive water testing.
5. Researchers used robotics and additive manufacturing to toughen cement-based material with precisely placed hollow tubes.
6. New study identifies differences between human and AI-generated text
7. Liquefied Natural Gas Carbon Footprint Is Worse Than Coal
8. Making electricity using microbes. (título)
9. Combining advanced robotics with a heartwarming design, AnAn sets a new standard for interactive AI companions.
10. One of the possibilities would be to harness metasurfaces to convert any surface into a high-resolution sensor.
11. The rotating shaft requires constant lubrication.
12. The EQUSPACE consortium (Enabling New Quantum Frontiers with Spin Acoustics in Silicon) is securing the future of quantum computing in Europe.
13. The chips have had to be custom-designed and manufactured for each specific application.
14. To increase energy density is vital to operate them at higher voltages.
15. Before initiating system diagnostics, the operator must disconnect the main power supply to prevent accidental short circuits. Once the system is powered down, adjust the pressure valve to release residual thermal build-up safely.

16. Combining the energy harvester with a solar cell significantly boosted the solar cell's power output, showcasing the benefits of harnessing both radio waves and sunlight.
17. Cellulose was too brittle to be used as an adhesive.
18. An advanced Intel 18A technology featuring RibbonFET and PowerVia provides over 30% density scaling and a full node of performance improvement compared to Intel 3, and offers high-performance (HP) and high-density (HD) libraries with full-featured technology design capabilities and enhanced design ease of use
19. In addition, the technology is being used to produce carbon nanotube wires that will significantly reduce resistance thereby reducing power loss during transmissions.
20. To move forward, we have to be able to miniaturize and scale these systems.
21. This connection emphasizes our commitment to creating a vehicle that harmonizes with its environment
22. A 14nm logic technology using 2nd-generation FinFET transistors with a novel subfin doping (dopaje de subaleta) technique, self-aligned double patterning (SADP) for critical patterning layers, and air-gapped interconnects at performance-critical layers is described.
23. The primary server processes incoming requests using a thread pool managing concurrent connections.

G. Lea el siguiente texto y luego resume en pocas líneas las características de los exoeskeletons.

Exoskeletons for industry

Exoskeletons in industry often go hand in hand with Industry 4.0. In practically all manufacturing companies, the limits of automation are being reached in some workplaces. Exoskeletons can provide good relief where employees are subject to high physical strain. The future will bring further possible applications for exoskeletons. Here you can find out all about exoskeletons in industry and why they have a bright future.



How can exoskeletons help?

Exoskeletons are a relatively new technology that is increasingly appearing in our everyday lives. These mechanical devices are worn over clothing and expand the natural powers and abilities of the human body.

How can exoskeletons help to increase productivity?

Exoskeletons can be an essential part of Industry 4.0. They offer the opportunity to increase productivity by reducing physical strain for those involved in manual labour. By supporting the muscular strength of users, exoskeletons can help reduce fatigue and improve health and safety in the workplace. In addition, exoskeletons can be used to facilitate the repetitive movements required in Industry 4.0. This can play a valuable role in the maintenance and servicing of production facilities as well as in the handling of heavy loads found in many industries. Overall, exoskeletons can contribute to increasing productivity and efficiency in Industry 4.0, helping to reduce costs and increase production.

PARTE B: Clase virtual asincrónica:

Comprensión de textos: Comprensión de textos: Tipología de ejercicios de comprensión 1.

En el Aula Virtual lea el texto y realice las actividades propuestas, recuerde que dispone de un tiempo limitado para realizarlas.

TRABAJO PRÁCTICO N° 3

PARTE A: estructuras y vocabulario.

- **Frase Verbal:** tiempos verbales simples, continuos y perfectos, futuro perifrástico *going to*, modales simples, continuos y perfectos, imperativo, voz activa.

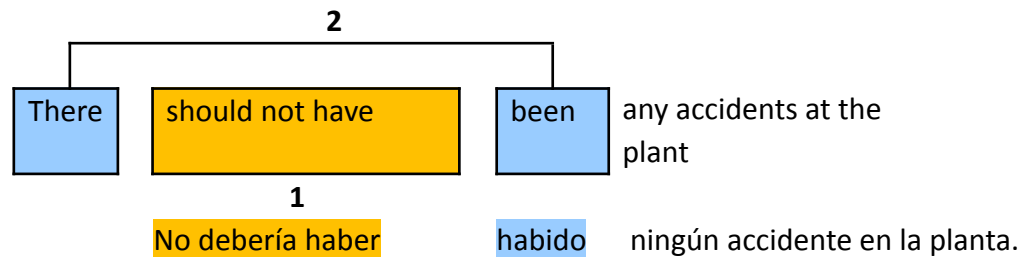
I. VOZ ACTIVA

A. Lea y traduzca las siguientes oraciones y sus variantes

El objetivo de este ejercicio es practicar los tiempos verbales, por lo que se traduce sólo la primera oración completa y en luego sólo el verbo que se indica, coordinando la terminación del tiempo verbal con el sujeto de la oración rectora.

1. Pressures had been changing rapidly at the aquifer/reservoir interface.
changed
will have changed
are changing
had changed
did not change
2. 3D printing the building might be a new technological advance.
can be
should be
was to be
must be
3. Cyber threat intelligence (CTI) methodology would help broaden its base.
helps
was helping
has changed
would have been helping.
4. We're going to have to design replicating machines.
may design
are able to design
ought to design
could design
5. There will be a thousand humanoid Tesla Optimus robots by the end of this year.
There could have been
There ought to be
There is to be
There must have been

La expresión **THERE + BE** significa **HABER**, es una expresión impersonal y, a pesar de que en inglés tiene un singular y un plural, como todas las expresiones impersonales en español se traduce SÓLO en singular **ha habido** y no ~~han habido~~. La traducción en los tiempos simples no presenta mayores dificultades, pero cuando se combinan con modales en tiempos perfectos, la traducción suele complicarse, por lo que sugerimos comenzar a traducir los verbos que están entre **there** y **be** primero y luego el verbo **haber** en la forma que exija la traducción anterior.



B. Traduzca las siguientes oraciones.

1. There seems to be a great deal we can still learn from the sophisticated and intricate behaviors of living organisms.
2. There may be occasions for re-covering the roof with terne-coated stainless Steel.
3. There could soon be a new generation of airplanes more environmentally friendly than their predecessors.
4. There will be some additional carbon emissions in manufacturing and transport of the aluminium.
5. There had been some reports of audio distortion at lower volume.
6. There have been various interesting and out-of-the-box discoveries in architecture based on this technique.

C. Lea y traduzca el siguiente código de seguridad.

User manual
FOR BATTERIES FROM WS TECHNICALS
Safety guidelines

DO NOT USE THE BATTERY IF IT HAS BEEN DROPPED, EXCESSIVELY HANDLED OR DAMAGED IN ANY WAY!



General

- Let's maintain the battery voltage so that the BMS does not enter a protective or erroneous mode.
- Do not serial-connect or parallel-connect the batteries unless told otherwise by WS Technicals or an authorized dealer.

- Do not short-circuit the battery.
- Do not dismantle, repair, modify, crush, puncture, open or shred the battery.
- Do not expose battery to heat or fire. Avoid exposure to direct sunlight.
- Do not remove the battery from its original packaging until required for use.
- Use a battery charger approved by WS Technicals.
- Observe the plus (+) and minus (–) marks on the battery and equipment and ensure correct polarity.
- Do not mix batteries of different manufacture, capacity, size or type within a device.
- Keep the battery clean and dry.
- When storing the battery, it must be recharged to at least a voltage equivalent to 40% SoC every 6 months.
- Retain the original product documentation for future reference

Disposal

Let's act in accordance with all applicable laws and regulations. Batteries may be returned to reseller or WS Technicals at the expense of the user

PARTE B: Clase virtual asincrónica:

Comprensión de textos: Aviso de ofrecimiento de empleo 1.

En el Aula Virtual lea el texto y realice las actividades propuestas, recuerde que dispone de un tiempo limitado para realizarlas.

TRABAJO PRÁCTICO 4

- **Voz pasiva:** común y especial.

A. Traduzca todas las variantes de la oración

-
- Computer algorithms **have been used** to predict chemical structures and their functions
- will be used
- were being used
- are going to be used
- would have been used
- may have been used
- should be used
- are to be used
- could be used
- have to be used

Posición de la partícula “se” con los verbos modales:

Sea una oración en pasiva traducida con **se** o un verbo intransitivo con **se**, esta partícula puede ir antes de la frase verbal (antes del verbo modal) o al final del verbo principal como una partícula inseparable.

(Pasiva) **All these elements must be integrated into the scene.**

(Traducción literal) **Todos estos elementos deben ser integrados en una escena.**

(Traducción con se) **Todos estos elementos se deben integrar en una escena.**

(Traducción con se) **Todos estos elementos deben integrarse en una escena.**

(Verbo intransitivo con se) **Natural elastomers could melt with heat.**

(Traducción con se) **Los elastómeros naturales se podrían fundir con el calor.**

(Traducción con se) **Los elastómeros naturales podrían fundirse con el calor.**

- **B. Identifique la frase verbal en voz pasiva. Traduzca las oraciones**

1. The idea of the 15-minute city had been adopted by several cities around the world.
2. Gold nanoparticles are being used for the purposes of detecting nucleic sequences.
3. The strength of the supports would have been marginal even without the fatal change in design
4. A surface-removal technique must be used in conjunction with the X-ray measurements.
5. Silica aerogel is going to be used by aerospace engineers.
6. A robot dog was to be used in the army to transport heavy things on foot.
7. Memory foam was developed in the late 1960s to cushion pilots and passengers during takeoff and landing

- **C. Traduzcan el segmento de texto correspondiente a cada grupo.**

INDUSTRIAL PETROLEUMS	The colors of hydrogen Hydrogen is the most abundant element in the solar system, but it naturally occurs only in its compound form on Earth. Therefore, it must be produced from molecules that contain it, such as water or hydrocarbons, through specific processes, including thermo-chemical conversion, biochemical conversion, or water electrolysis. The colors of hydrogen are crucial for the energy transition because each production pathway generates different amounts of greenhouse gas emissions and results in different production costs. Today, renewable (or green) hydrogen is 2 to 3 times more expensive than hydrogen produced from fossil fuels However, these costs will decrease over time thanks to innovation, economies of scale, and carbon pricing policies. Furthermore, the world's dependence on grey hydrogen has a high carbon cost. A shift to blue hydrogen would halve carbon emissions. Although fossil fuel plants utilizing Carbon Capture and Storage (CCS) are well-suited to mitigate emissions, only adopting renewable hydrogen at scale, with its zero-carbon impact, would fully address emissions concerns associated with the production and consumption of hydrogen. General definitions Low-carbon hydrogen refers to hydrogen produced from energy sources of nonrenewable origin with a carbon footprint below a defined threshold, such as blue hydrogen. Clean hydrogen refers to renewable and low-carbon hydrogen. It is important to note that while hydrogen burns cleanly as fuel at its point of use, hydrogen produced from fossil fuels simply relocates emissions from one site to another.
CIVIL ARCHITECTURE	The colors of hydrogen Black or brown hydrogen refers to hydrogen produced by coal gasification. The black and brown colors sometimes indicate the coal type: bituminous (black) and lignite (brown). This process generates significant CO₂ emissions (19 tCO₂/tH₂). Blue hydrogen is produced mainly from natural gas by steam gas reforming, paired with carbon capture and storage (CCS). Blue hydrogen has a much lower carbon intensity than grey hydrogen, with estimates ranging from 1-4 tCO₂ /tH₂. Although using CCS increases costs, blue hydrogen remains the cheapest “clean” alternative to grey hydrogen. Green or renewable hydrogen is produced from renewable energy sources like wind and solar through a process known as water electrolysis, where an electrolyzer splits water molecules into oxygen and hydrogen. No CO₂ emissions are generated during the production process. Today, green hydrogen costs are significantly more than those of grey hydrogen. It accounts for less than 0.1% of the world's hydrogen production. Yellow hydrogen refers to green hydrogen produced from solar energy. It does not generate CO₂ emissions. Estimates suggest that yellow hydrogen may become the cheapest form of renewable hydrogen in the medium term. Pink hydrogen is produced by water electrolysis powered by nuclear power, a clean but non-renewable energy source that does not generate CO₂ emissions.

M E C A T R Ó N I C A Y L C C	Purple hydrogen is produced by water electrolysis using nuclear power and heat.
	Red hydrogen is produced by the high-temperature catalytic splitting of water using the heat and steam generated from nuclear plants. This process requires much less electricity than traditional electrolysis.
	Turquoise hydrogen is hydrogen produced from natural gas under a process known as methane pyrolysis. In this process, natural gas is decomposed into hydrogen and solid carbon at high temperatures. Currently, turquoise hydrogen is still in the early development stage.
	Orange hydrogen refers to emerging processes that produce hydrogen using plastic waste as a feedstock. It may offer a solution to both the clean energy problem and issues surrounding plastic waste disposal. Orange hydrogen remains in the early development stages, with various technologies and production processes, including pyrolysis, microwave catalysis, and photo-reforming, under evaluation.
	White hydrogen , also known as natural hydrogen, is naturally generated within the Earth's crust through interactions between water molecules and iron-rich minerals at high temperatures and pressures. As water reacts with these minerals, it releases hydrogen gas. There are no strategies to exploit this hydrogen at present.

I. PASIVAS COMUNES Y ESPECIALES

A. Lea y traduzca las siguientes oraciones que contienen frases en voz pasiva común y especial

1. Nanotechnology is also being used on swimwear to develop ultra-light wear for the swimmer. These fabrics have been shown to help swimmers glide through water more easily.
2. This pioneering endeavor is believed to be the largest-ever cosmological computer simulation, aiming to decode the enigma of matter distribution within our universe.
3. While the first unit is now connected to the grid and operational, the next one is planned to become active in 2025.
4. Fusion has never seriously been considered to be a viable future energy source and more of a pipe dream.
5. In 2015, between 15 trillion and 51 trillion microplastic particles were estimated to be floating in surface waters globally,
6. Robots are not only very important in the industry, but can be found all around us.
7. This means that cyber security awareness is given priority and ways are found to reduce individuals' vulnerabilities
8. The job market for forensic science technicians is expected to grow by a stunning 27% during the same time period
9. The items involved were landing gear, an engine bearing and a blade from a gas producer turbine wheel. The landing gear failure was found to have resulted from prior cracking.
10. Clay bricks: Made from natural clay, these bricks are known for their excellent load-bearing capacity, fire resistance, and thermal insulation properties.
11. These specific components are designed to handle maximum structural loads.
12. Despite this complexity, surprisingly, the magnetoresistance was found to be extremely simple.

Since + expresión de tiempo o evento: desde

- Since its conception and design, the political and cultural situation in Hong Kong has radically shifted.
- Since 1960, we have diversified our product line to include motorboats, outboard engines, and automobile engines.
- OPPO is a leading global smart device brand since they launched its first mobile phone - "Smiley Face".

Since: conjunción causa-consecuencia: ya que, debido a, porque

- A semi-submersible is not so susceptible to waves in comparison to surface ships since most of the body is underwater.
- Financing can also be a difficult prospect, since each use must be evaluated separately.

C. En el siguiente texto realice, en español, las siguientes actividades

1) Traduzca las oraciones marcadas en el análisis de segmentación del mercado

2) Responda Verdadero o Falso a las preguntas incluidas al finalizar el texto.

Growth Trends in the Green Mining Market 2025-2029 - Rising Green Finance Provides the Necessary Capital for Companies to Transition Toward More Sustainable Practices

December 27, 2024 04:27 ET | Source: **Research and Markets**

Market Segmentation Analysis:

By Mining Type: In 2023, the surface segment dominated the market share due to its cost-effectiveness, operational simplicity, and ability to extract large volumes of minerals with minimal resource input. Surface mining techniques, such as open-pit and strip mining, are easier to implement with green technologies like renewable energy, water management systems, and dust suppression methods. Additionally, advancements in equipment automation and precision mining technologies have made surface mining more efficient and environmentally friendly, further driving its dominance in the market. On the other hand, underground segment is expected to grow fast during forecasted period due to increasing investments in advanced technologies that enhance safety, efficiency, and sustainability in subsurface operations. Innovations such as automated mining equipment, real-time monitoring systems, and low-emission ventilation solutions are making underground mining more viable and environmentally friendly. Additionally, the growing demand for high-value minerals located in deeper deposits and the need to minimize surface disruption are encouraging the adoption of underground mining.

By Technology: Power reduction segment holds the largest market share in 2023 due to the growing emphasis on energy efficiency and cost savings in mining operations. Mining companies are increasingly adopting renewable energy sources, energy-efficient equipment, and smart grid technologies to reduce electricity consumption and operational expenses. The rising costs of conventional energy and the push to meet stringent carbon reduction targets have further incentivized investments in power reduction strategies. On the other hand, emission reduction segment is believed to grow the fastest during forecasted period due to increasing regulatory pressure to curb greenhouse gas emissions and the global shift toward decarbonization. Mining companies are adopting cleaner technologies, such as electric and hybrid mining equipment, carbon capture and storage (CCS), and renewable energy integration, to reduce their carbon

footprint.

By Region: In 2023, Asia Pacific dominated the global green mining market and is considered to grow at the fastest CAGR from 2024 to 2029 due to rapid industrialization, urbanization, and the region's abundant mineral resources. Countries like China and India are heavily investing in sustainable mining practices to meet increasing domestic demand.

Government initiatives promoting green technologies, stricter environmental regulations, and the adoption of renewable energy and advanced mining equipment are driving growth in the region. Additionally, the rising demand for sustainably sourced minerals in industries such as electronics and renewable energy further boosts the market's expansion in Asia Pacific.

Global Green mining Market Dynamics:

Growth Drivers: Rising green finance is a significant growth driver of the global green mining market. This access to green finance not only reduces the financial burden of implementing costly green technologies but also enhances the competitiveness and reputation of mining companies, accelerating the market's growth. Further, the market is estimated to grow owing to increased demand for critical minerals, increasing environmental regulations, growing focus on sustainability and ESG goals, rising public and corporate awareness, economic benefits of sustainable practices etc. in recent years.

Market Trends: The expansion of circular economy practices is a key trend driving the global green mining market, as it emphasizes resource efficiency, waste minimization, and sustainable production cycles. As industries increasingly prioritize circularity, the demand for eco-friendly mining practices will continue to grow, fostering long-term market expansion. More trends in the market are believed to grow the green mining market during the forecasted period, which may include the increased use of automation and AI, adoption of renewable energy in mining operations, focus on carbon neutrality, digital twin technology in mining, advancements in bio-mining etc.

A continuación, se presenta un cuestionario de 4 ítems basado en la segmentación y la dinámica del mercado descritas en el texto. Responda V o F, según el texto anterior

1. En 2023, el segmento de minería de superficie dominó la cuota de mercado gracias a su rentabilidad y simplicidad operativa, mientras que el segmento subterráneo se proyecta como el de crecimiento más rápido durante el período pronosticado debido a las inversiones en tecnologías avanzadas de seguridad y sostenibilidad.
2. El segmento de reducción de emisiones (*emission reduction*) mantuvo la mayor cuota de mercado en 2023 debido al aumento de los costos de la energía convencional y la eficiencia energética.
3. Asia-Pacífico fue la región dominante en el mercado global de minería verde en 2023 y se espera que registre la tasa de crecimiento anual compuesta (CAGR) más rápida entre 2024 y 2029.
4. La disminución del financiamiento verde actúa como un factor negativo que desacelera significativamente el crecimiento del mercado global de minería verde.

PARTE B: Clase virtual asincrónica:

Comprensión de textos: Tipología de ejercicios de comprensión 2.

En el Aula Virtual lea el texto y realice las actividades propuestas, recuerde que dispone de un tiempo limitado para realizarlas.

TRABAJO PRÁCTICO 5

- **Oraciones condicionales:** 1ro, 2do y 3er tipo, oraciones condicionales especiales.

A. Traduzca las siguientes oraciones condicionales. Indique a qué tipo de condicional

1. Who should be held accountable if an autonomous vehicle caused an accident?
2. If you have enough metadata, you don't really need content.
3. However, photochromic windows are very expensive, at least if they use silver.
4. As mentioned earlier, tough, ductile metals can exhibit brittle failures if they contain cracks in thick sections.
5. If you are interested to hear more about how Propeller can help take your construction companies drone surveying program to the next level, reach out to us for a free demo on what Propeller can accomplish for you.
6. Please keep us informed if your personal data changes during your relationship with us.
7. Clearly if this failure had happened in flight, the aircraft could have crashed, though other such failures in the past have not always had disastrous consequences.
8. Likewise, if mining of lunar soil or asteroids for rare materials became economically viable, this also could be done more cheaply and safely with robots.
9. You will receive marketing communications from us if you have requested information from us.

B. Lea las siguientes oraciones. Identifique el caso (nexo "if", otros nexos, inversión). Traduzca.

1. However, should these mitigating measures fail, the drone would cease to be authorised and become an unauthorised drone
2. As the world faces these pressing challenges, biomimicry offers hope. Biomimicry has the potential to become the future of sustainable architecture and design, as long as it is integrated into the project for functional purposes.
3. In the event of a hit and run, the data can show if that vehicle was in the area of the crash at that specific time and date. (BERLA iVe Vehicle System Forensics)
4. This way, you and your team can be better prepared should an incident occur.
5. A cobot, provided the goods are delivered constantly, can keep stacking endlessly.
6. Had Hamzah and his team not had this accurate information available, the dispute with the subcontractor could have dragged on for weeks, costing Haskell precious time and money in the process
7. Even though the process of petroleum degradation in the presence of aerobic conditions happens much faster than compared to the anaerobic conditions, it is crucial to understand that the anaerobic degradation process is also important to several bioremediation processes.

Even if	Aún cuando
Even though	Incluso si
Even when	Aunque

8. If you're considering suing your employer, remember that the aim of legal damages is to put you in the position you would be in had the accident not happened.
9. Risk assessments should be done assuming the user is not wearing any personal protection equipment and before the safety function is added.
10. Should you have any questions about the Microplastics journal, you can contact the Publishing Manager, Liliane Auwerter, at liliane.auwerter@mdpi.com

C. Lea las siguientes oraciones. En ellas aparecen nexos en un uso común y en un uso condicional. Tradúzcalas apropiadamente de acuerdo al contexto.

1. Since its establishment, the company has continuously improved and upgraded the industrial system, optimized the industrial structure, and concentrated resources to vigorously develop the two major industries of military equipment and intelligent power.
2. The death toll from the Deepwater Horizon incident is low in comparison to other oil rig disasters, with 11 fatalities in the event.
3. Since the drone use began, the USAF has acquired 269 Predators, of which 40% have crashed in Class A accidents and 8 % in class B accidents.
4. Francis Aston first took advantage of a mass spectrometer in his study of isotopes in 1919, but for a long time the tool was seen by some chemists as, according to a description by mass spectrometrists Michael Grayson, “an unexplainable, voodoo, black magic kind of a tool.”
5. Since the ground station is mounted on a vehicle, it can be moved to avoid bad weather and turbulence, making the data transmission more reliable.
6. One of the major supply chain risks for the automotive sector is the infotainment systems and connectivity technology provided by software vendors.
7. The lifetime between inspections, or to retirement, is calculated by assuming an initial defect size, and calculating the number of flight cycles required to grow it to failure.
8. The technology will “reduce unnecessary visits to the doctor (and) eliminate costly false alarms” since it will have access to “the databanks of the world’s leading medical centers (with) the latest scientific information.

C. Lea el siguiente texto y

1. Traduzca esta introducción.

What should business owners do when a workplace accident occurs?

At **Huckleberry**, we want to help you cover yourself in the case a workplace accident occurs as well as other potential financial damages your business may face. Without this important policy in place, you are vulnerable to citations from your local government and potentially debilitating lawsuits from injured employees. With workers' comp in place, you are protected from these costs should a workplace incident lead to the personal injury of one or more of your employees.

What is considered a workplace accident?

A workplace accident describes an unexpected, sudden event that leaves at least one employee injured physically or mentally. It also can result in fatalities. However, it is essential to note that workplace accidents do not include occupational diseases that arise from the job. An employee falling off a ladder and breaking their leg is a workplace accident. Lung cancer that occurs due to prolonged contact with a harmful substance on the job site is an occupational disease. The exception to this rule is asbestos exposure, in which case the employee can still sue the business should the exposure result in long-term health complications such as mesothelioma.

What types of workplace accidents are preventable?

Many workplace accidents are preventable. Falls due to improperly maintained scaffolding or ladders can be prevented, as can slips and trips caused by lack of signage on wet floors. While drug or alcohol-induced workplace accidents are sometimes exempt from payouts from workers' comp, you can reduce the risk of accidents like these by enforcing regular, routine drug tests in the workplace. Similarly, workers' comp often does not cover injuries resulting from workers fighting or playing around. You should still monitor your workforce to ensure that peace is kept throughout each workday.

Employer's guide to workplace accidents

Even if you put every possible policy and protocol in place to eliminate minor and serious injuries due to workplace accidents, you may still have them in your business. When accidents occur, you need to know how to respond both in the moment and afterward. Let's look at several steps to take to handle workplace accidents.

PARTE B: Clase virtual asincrónica:

Comprensión de textos: Aviso de ofrecimiento de empleo 2.

En el Aula Virtual lea el texto y realice las actividades propuestas, recuerde que dispone de un tiempo limitado para realizarlas.

TRABAJO PRÁCTICO N° 6

PARTE A: estructuras y vocabulario.

- **Traducciones con “Se” I:** pasivas, pasivas especiales, con elipsis, con sujeto consciente, verbos intransitivos, usos impersonales de you y one.

I. TRADUCCIONES CON “SE”

A. Traduzca las oraciones con casos de traducción con “se”.

1. With the ever increasing energy demands, nanotechnology has been shown to significantly contribute to the production of alternative energy.
2. In 2020 the German architect Anna Heringer was given the Obel Award for the Anandaloy community centre in Bangladesh. The building's structural elements are crafted from rammed earth made with mud from local ponds for its structural elements.
3. New types of sandwich structures with a low relative density and multifunctionality should be designed to meet industry requirements.
4. Whether through virtual, augmented, or mixed reality, an improvement in information retention, motivation and concentration is expected, as indicated a recent study.
5. Participants are encouraged to reflect on their feelings and evaluate the public nature of the urban space, the intended usage of the public space, and their impressions of walkability and cyclability during these virtual visits and during the display of real videos.
6. To avoid duplicate information, multimodal semantic items are synthesized to a single format while also minimizing the number of dimensions.
7. When water cools, or evaporates, its capacity to dissolve is reduced and the mineral salts that have not dissolved in it tend to separate from the liquid and stick to walls and surfaces.
8. The capacity of elements built from composite materials is dependent on how the concrete and rebar interact. Steel expands when it corrodes.
9. Flexicomb is inspired by nature – as you might guess from the name, the structure of this material is inspired by honeycombs.

TRADUCCIONES DE LA VOZ PASIVA

1) Pasiva común sin *by* + complemento agente.

(2 traducciones posibles: con *se* y perifrástica)

Several frequently used statistical indicators are introduced to verify the diagnostic ability of the sample entropy.

- Varios indicadores estadísticos son introducidos para verificar la capacidad de diagnóstico de la entropía de muestra.
- Varios indicadores estadísticos se introducen para verificar la capacidad de diagnóstico de la entropía de muestra.

2) Pasiva común con *by* + complemento agente.

(Una sola traducción posible: perifrástica)

Anyone wearing a respirator must be trained by the company.

Cualquiera que use un respirador debe ser entrenado por la compañía.

~~Cualquiera que use un respirador se debe ser entrenar por la compañía.~~

3) Pasiva especial

(Una sola traducción posible: con se y se cambia el orden)

Almost 75% of the population

is expected

to be urban by 2030.

2

1

3

Se espera que casi el 70% de la población sea urbana para 2030.

4) Pasiva al final de la oración

(Una sola traducción posible: con se y al principio de la frase)

This test was repeated four times to ensure that similar results were achieved.

Esta prueba fue repetida cuatro veces para asegurar que se logren resultados similares.

~~Esta prueba fue repetida cuatro veces para asegurar que resultados similares se logren.~~

~~Esta prueba fue repetida cuatro veces para asegurar que sean logrados resultados similares.~~

B. Traduzca apropiadamente las oraciones en voz pasiva según el contexto y función.

1. The project is a conceptual concept promoting sustainability, optimising the building design, and minimising materials. Moreover, biomass, biomaterials, and carbon capture technologies are finely integrated.
2. Naturally, the material was immediately adopted by the military and optics industries.
3. The lifetime of the coating will be extended due to the passive film maintaining for a wider potential range.
4. Dark matter is thought to be more abundant than normal matter.
5. Hexagonal panels dubbed HexChar were installed on an Audi dealership in Munich last year, marking the first time the product had been used on a building.
6. Now, by combining metasurfaces and neural networks, images equivalent to those of a camera with six lenses and half a million times the size can be obtained.
7. Titanium dioxide has been found to decrease the corrosion rate.
8. Quantum particles are correlated in ways we can't describe with everyday logic or language– they don't communicate while also containing a hidden code, as Einstein had thought.

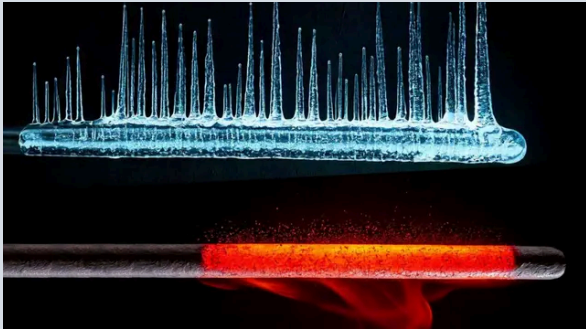
II. ELIPSIS

A. Traduzca los siguientes casos de elipsis

1. The developer of the project is Category Company, and once built, the project will be turned over to Common, a third-party management firm

2. There are many options in the field of vision and the choice of a type of system depends on the application the cobot has to perform. The difference is in cost, flexibility and ease of use. As said, there are two types of camera types; 2D and 3D.
3. When optimising the possible application, they pay minimal attention to the tasks of the production employee. They are instructed and supported where necessary.
4. The data required to satisfy the service requirement are acquired from reputable sources if accessible and other untrusted sources.
5. Dissimilar metals should not be connected to each other unless separated by a dielectric fitting.

B. Traduzca el segmento asignado a su grupo y responda V o F

Pe tr ól eo s- Ar qu ite ct ur a- Ci vil -L CC	Superman-like alloy defies laws of heat, withstands 400 Kelvin with zero expansion The pyrochlore magnet's exceptional performance is due to its non-uniform structure.  TU Wien Things are known to expand when they get hot. Bridges, roads, and even the Eiffel Tower grow a little taller in the summer. The Eiffel Tower's height changes by 10 to 15 centimeters between summer and winter due to thermal expansion. It's taller in the summer when the metal is warmer and expands. However, this expansion can be a real problem for many technologies like precision instruments or spacecraft. Researchers at TU Wien in Vienna teamed up with experimentalists at the University of Science and Technology Beijing to unravel Invar's secret using computer simulations. "Metal usually expands when heated and the atoms tend to move – and when the atoms move more, they need more space. The average distance between them increases," explained Sergii Khmelevskiy from the Vienna Scientific Cluster (VSC) Research Centre at TU Wien. a. En invierno las estructuras tienden a agrandarse..... b. La variación térmica se explica por el movimiento mayor de átomos al calentarse.....
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Pyrochlore magnet's less thermal expansion

The research began with an investigation into Invar's unusual property of low thermal expansion. They found that its magnetic properties are the key to its stability.

"The effect is due to certain electrons changing their state as the temperature rises. The magnetic order in the material decreases, causing the material to contract. This effect almost exactly cancels the usual thermal expansion," said Khmelevskyi.

Researchers developed a new alloy, the pyrochlore magnet, which exhibits even less thermal expansion than Invar.

The pyrochlore magnet exhibits incredibly stable dimensions across a wide temperature range of over 400 Kelvins (126.8 degrees Celsius). Interestingly, it changes by only "one ten-thousandth of one percent per Kelvin."

Composed of four metals

The Invar is made of two metals, but the pyrochlore magnet is composed of four: zirconium, niobium, iron, and cobalt. This more complex composition gives it an unprecedented ability to resist thermal expansion.

"It is a material with an extremely low coefficient of thermal expansion over an unprecedentedly wide temperature range," said Yili Cao from the Institute of the Solid State Chemistry of the University of Science and Technology Beijing.

- El Invar presenta baja expansión térmica porque ciertos electrones cambian con el ascenso de la temperatura
- La nueva aleación presenta una mayor expansión térmica que el Invar.....

PARTE B: Clase virtual asincrónica:

Comprensión de textos: Tipología de ejercicios de comprensión 3.

En el Aula Virtual lea el texto y realice las actividades propuestas, recuerde que dispone de un tiempo limitado para realizarlas.

TRABAJO PRÁCTICO N° 7

PARTE A: estructuras y vocabulario.

- **Traducciones con Se II:** frases pasivas, acciones reflejas y recíprocas, y frases con *together*, verbos *get*, *become*, *grow*, *turn* y *make*.

A. Traduzca las siguientes oraciones

1. Superposition is also used in applying the constant-pressure case. Pressure changes are accounted for in this solution in much the same way that rate changes are accounted for in the constant rate case.
2. The diesel engine business will continue to position itself as a domestic advanced supplier in a full range of applications, expanding its product line and market segments.
3. Nanoimprinting Technique for Humidity-Responsive Holographic Images: A blue image at low humidity turns red as humidity increases.
4. Hundreds of *Geobacter* bacteria clump together so they can dump excess electrons into 'giant snorkels' called nanowires.
5. Due to the pandemic-induced economic slowdown, the idea of constructing smart cities has become almost impossible for some countries.
6. The type of ash varies in coal, and this reflects the tendency for slagging, which must be accounted for in the boiler design.
7. The workers who used to assemble the light housings manually can now spend their time on other tasks, such as quality control. All they have to do is make sure that the cobot receives the parts once an hour.
8. When a coal cakes, the smaller particles adhere to one another, and large masses of fuel are formed on the grates.
9. While these improvements in efficiency are useful, care must be taken to understand the limitations of AI models.
10. Users can interact with digital things in the actual world using AR technology, for instance, and can completely immerse themselves in a virtual environment using VR technology.
11. Already substantial for a trip to the Moon, the cost differences between human and robotic journeys would grow much larger for any long-term stay.
12. The immobilized crude oil gets washed off through the mesh, leaving behind HBC.
13. A material behaves like a superconductor when a pair of electrons called a Cooper pair moves together in a coordinated fashion.
14. Biological treatment and advanced oxidation methods often become compromised by elevated salinity levels, reducing their overall effectiveness.

SELF/SELVES

1) reflexivo: cuando algo o alguien realiza una acción que tiene efecto sobre sí mismo.

1ra persona – me, nos

2da persona – te (con sujeto tú)

Se (con sujeto usted o equivalente)

I found myself amidst another revolution.

Me encontré en medio de una revolución

3ra persona – se (con sujeto ustedes o ellos o algún equivalente)

He found himself amidst a revolution.

Se encontró en medio de una revolución

2) enfático:

a) mismo, propio

This demonstration is itself a contribution to deterrence.

The initiative to investigate the deployment of SMRs at Halden, in southeast Norway, came from the municipality itself.

b) solo, sin ayuda -self / by -self

The robot itself then performs obstacle avoidance and path planning to navigate towards the given goal.

This makes it very easy to teach the cobot a number of points, after which it moves along the surface by itself.

B. Traduzca la oraciones apropiadamente según el contexto y función.

En este ejercicio se van a ver estructuras que, según el contexto se traducen con se o no.

1. As a result of the lack of inspiration, many companies find it difficult to put together an interesting business case. Finally, user-created services are made available to the whole community, **allowing any member to make use** of them or expand on them.
2. The recycled material consists of 90% carbon and is able to absorb CO₂ from the atmosphere, and is itself a carbon-negative material.
3. Blocks and layers are **the bread and butter** of anyone who uses AutoCAD – a block is basically a group of shapes that are linked together to make one object.
4. At first sight of this photo, you may think that these small people have been made slaves by a large airline Company.
5. Such flexible electro-active materials were made possible from a thoughtful combination of functional nanofillers introduced, embedded, and/or mounted on flexible polymers.
6. In addition, there are other materials that **have made headlines** in recent years, the vulnerability of individuals is made clear, and this is due to the increasing use of social media platforms and the increase in electronic risks that have **allowed cybercrime to thrive.**
7. Just as my loom **was made redundant** by machines, so too are many modern jobs facing obsolescence.
8. In the 1980s, scientists discovered a hole in Earth's ozone layer, created when CFCs rise to the stratosphere, break down and react with ozone, destroying it. In solving one problem, humanity found itself with another.

C. Traduzca el segmento asignado a su grupo.

PARTE 1 Industrial – Mecatrónica - LCC	A Wolverine Inspired Material RIVERSIDE, Calif. (www.ucr.edu) — Scientists, including several from the University of California, Riverside, have developed a transparent, self-healing, highly stretchable conductive material that can be electrically activated to power artificial muscles and could be used to improve batteries, electronic devices, and robots. The material has potential applications in a wide range of fields. It could give robots the ability to heal themselves after mechanical failure; extend the lifetime of lithium ion batteries used in electronics and electric cars; and improve biosensors used in the medical field and environmental monitoring. “This project brings together the research areas of self-healing materials and ionic conductors. Inspired by wound healing in nature, self-healing materials repair damage caused by wear and extend the lifetime, and lower the cost, of materials and devices. Wang developed an interest in self-healing materials because of his love of Wolverine, the comic book character who has the ability to self-heal. Ionic conductors are a class of materials with key roles in energy storage, solar energy conversion, sensors, and electronic devices. Another author of the paper, Christoph Keplinger, an assistant professor at the University of Colorado, Boulder, previously demonstrated that stretchable, transparent, ionic conductors can be used to power artificial muscles and to create transparent loudspeakers – devices that feature several of the key properties of the new material (transparency, high stretchability and ionic conductivity) – but none of these devices additionally had the ability to heal themselves from mechanical damage. The key difficulty is the identification of bonds that are stable and reversible under electrochemical conditions. Conventionally, self-healing polymers make use of non-covalent bonds, which creates a problem because those bonds are affected by electrochemical reactions that degrade the performance of the materials.
PARTE 2 Petróleos, Arquitectura - Civil	Wang helped solve that problem by using a mechanism called ion-dipole interactions, which are forces between charged ions and polar molecules that are highly stable under electrochemical conditions. He combined a polar, stretchable polymer with a mobile, high-ionic-strength salt to create the material with the properties the researchers were seeking. The low-cost, easy to produce soft rubber-like material can stretch 50 times its original length. After being cut, it can completely re-attach, or heal, in 24 hours at room temperature. In fact, after only five minutes of healing the material can be stretched two times its original length. Timothy Morrissey and Eric Acome, two graduate students working with Keplinger, demonstrated that the material could be used to power a so-called artificial muscle, also called dielectric elastomer actuator. Artificial muscle is a generic term used for materials or devices that can reversibly contract, expand, or rotate due to an external stimulus such as voltage, current, pressure or temperature. The dielectric elastomer actuator is actually three individual pieces of polymer that are stacked together. The top and bottom layers are the new material developed at UC Riverside, which is able to conduct electricity and is self-healable, and the middle layer is a transparent, non-conductive rubber-like membrane. So, just like how a human muscle (such as a bicep) moves when the brain sends a signal to the arm, the artificial muscle also reacts when it receives a signal. Most importantly, the researchers were able to demonstrate that the ability of the new material to heal itself can be used to mimic a preeminent survival feature of nature: wound-healing. After parts of the artificial muscle were cut into two separate pieces, the material healed itself without relying on external stimuli, and the artificial muscle returned to the same level of performance as before being cut.

PARTE B: Clase virtual asincrónica:

Comprensión de textos: Avisos de ofrecimiento de empleos 3.

En el Aula Virtual lea el texto y realice las actividades propuestas, recuerde que dispone de un tiempo limitado para realizarlas.

TRABAJO PRÁCTICO N° 8

PARTE A: estructuras y vocabulario.

- **Modo subjuntivo parte I:** oraciones con conectores, construcciones con for+NP+to infinitive, that-clauses con o sin *should* con referencia futura.

1. Traduzca

1. The design allows for the liquid to flow into the lower reservoir by gravity.
2. There is a pressing need for the temperature to be monitored at every stage of the reaction.
3. The experiment was designed for the particles to collide at sub-zero temperatures.
4. The city ordinance requires the developer to include green spaces in the final architectural plan.
5. The specifications ask the manufacturer to use only lead-free components in the assembly.
6. It is important that these systems should be protected against data theft and manipulation.
7. For the structural integrity to be maintained requires the stress at every point to remain below the yield strength.
8. We demand that architects think about their role in spatial justice differently. We should be in the process of choosing what is going to get built as opposed to just designing what somebody else has preprogrammed.
9. Society demands that information be instantaneously available.
10. The specification provides for the contractor to supply all necessary specialized tools.
11. We need powerful tiny batteries to unlock the full potential of microscale devices.
12. Using thin-film technology in nuclear clocks is commensurate with semiconductors and photonic integrated circuits, suggesting that future nuclear clocks could be more accessible and scalable.
13. In addition, the engineers were requested to support the UN Boundary Commission, which was to mark the Iraq-Kuwait border.

2. Traduzca el texto y luego responda las preguntas

- Published: 16 February 2026

A universal strategy towards self-healing materials via dynamic interfacial liquid metal coordination

Results

Gallium is not suitable for use in metal-ligand coordination based self-healing polymers because of its weak metal coordination ability. Interestingly, liquid metal Ga acts as a metal solvent. This

property allows the synthesis of coordination-active mLMs through the incorporation of metals such as silver (Ag), copper (Cu), and zinc (Zn). As shown in Fig. 1A, the introduction of mLMs into the polymer system resulted in successful interfacial coordination between the active metal atoms on the surface of the mLMs and the ligands on the polymer chains. Unlike a common metal-ligand coordination system, this interfacial coordination occurs exclusively around the active metal atoms on the surface of the fluidic mLMs. The fluidity of mLMs plays a critical role in the reversible interfacial coordination for self-healing involving mLMs and polymer materials. Figure 1B illustrates the self-healing process of interfacial coordination. Firstly, interfacial coordination is formed between the active metal atoms on the surface of mLMs and ligands (Fig. 1B₁). When damaged by external force, defective regions are generated on the surface of mLMs, and the interfacial coordination formed between mLMs and ligands is simultaneously damaged (Fig. 1B₂). Then, due to the fluidity of mLMs, the newly generated active metal atoms and Ga in the defective region migrate to the surface and heal the defects. The healed mLMs surface re-engages with the ligands on the polymer chains, thereby enabling the self-healing features (Fig. 1B₃). In contrast, realizing the self-healing capability by common strong metal coordination systems (such as Ag-S) is challenging, as demonstrated in Fig. 1C. Owing to the abundant active sites on Ag powder, strong Ag-S coordination bonds form between the powder and sulfur ligands in natural rubber (NR), creating a rigid network. The permanent and irreversible nature of the coordination bond at the interface makes it difficult for the composite to exhibit self-healing properties.

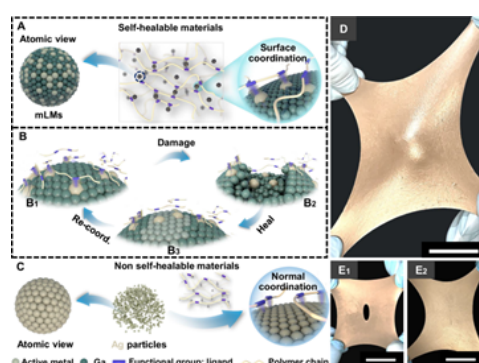


Fig. 1: Self-healing mechanisms by dynamic interfacial coordination of mLMs.

1. ¿Qué característica específica del galio líquido permite que se puedan sintetizar mLMs mediante la incorporación de metales como la plata o el cobre?

2. Describa brevemente qué ocurre en la superficie de los mLMs cuando el material sufre un daño por una fuerza externa.
3. ¿Cuál es la razón principal por la cual la fluidez de los mLMs es considerada un factor crítico para las propiedades de autorreparación?
4. Según el último párrafo, ¿qué propiedad de los enlaces de coordinación en el sistema de polvo de plata (Ag-S) hace que sea difícil que el compuesto exhiba capacidades de autorreparación?

Práctica Extra: Traduzca las secciones resaltadas

Neuroarchitecture: How Your Brain Responds to Different Spaces



Basilica of Saint Francis of Assisi, Italy. Photo by Blackcat, via Wikimedia. License CC BY-SA 3.0

Amazon Spheres in Seattle / NBBJ. Photo © Bruce Damonte Architectural Photographer

Salk Institute / Louis Kahn. Photo © Liao Yusheng

Have you ever heard of neuroarchitecture? What would spaces look like if architects designed buildings based on the emotions, healing and happiness of the user? Hospitals that help with patient recovery, schools that encourage creativity, work environments that make you more focused...

This is neuroarchitecture: designing efficient environments based not only on technical parameters of legislation, ergonomics and environmental comfort, but also on subjective indices such as emotion, happiness and well-being.

How many times have you been to a place, whether it be a park, a housing project, a mall, a house, a building, and felt depressed and anxious, or the opposite, happy and excited?

I remember when I visited Barcelona in 2008 and I walked into a church called Santa Maria del Mar and I cried with emotion: I didn't want to leave, it was one of the most welcoming and exciting places I had ever visited and being there made me immensely happy and I didn't know why.

With advances in neuroscience, it is becoming easier every day to measure these indices and understand how shapes, colors and scales can influence human perceptions. Currently, it is already possible to use MRI machines and virtual reality to understand how brain waves behave in spaces through biofeedback.

For example, with augmented reality glasses, we can show the project to the client in advance and measure their heart rate to understand their reaction when seeing the perspective.

How did it start?

One of the first to observe that spaces influenced emotions was the American doctor who created the polio vaccine, Jonas Salk. In the 1950s, Jonas spent time in Italy and realized that every time he visited the Basilica of St. Francis of Assisi, located in the city of Assisi and built in the 13th century, he became more creative and inspired.

When he returned to the US in 1962, he created a school called the Salk Institute for research in the fields of molecular biology, genetics, neuroscience and plant biology in the city of La Jolla, California.

For that, he called on the architect Louis Kahn, and asked for the project to be a mixture of art and science, where functionality and aesthetics walk side by side, inspiring scientists to do research as artists do art. Today the Institute building is one of the most incredible and emblematic buildings built in the 20th century.

In fact, the walkway between the blocks to the beach is reminiscent of the walk to the altar of the Basilica of Assisi, as Salk dreamed of.

People and environments require architects and designers to pay more attention to these aspects, given that they have a greater chance of generating long-lasting effects. We hope more architects specialize and understand a little more about neuroarchitecture.

PARTE B: Clase virtual asincrónica:

Comprensión de textos: Tipología de ejercicios de comprensión 4.

En el Aula Virtual lea el texto y realice las actividades propuestas, recuerde que dispone de un tiempo limitado para realizarlas.

TRABAJO PRÁCTICO N° 9

- **Comparación de adjetivos y adverbios:** comunes, irregulares, comparativos especiales.
- **Verbos con partícula:** Verbos + preposición, verbos + partícula adverbial, verbos de movimiento + partícula adverbial.

A. Traduzca las siguientes oraciones

1. For pipe bending, it is not the larger the relative bending radius and relative thickness value the greater the deformation.
2. The cobot industry is expected to grow to \$2.2 billion by 2026, with which we are also expected to see more and more modular robotic work cells
3. Pneumatic grippers are suitable for less complex tasks and are operated with compressed air. They are often somewhat easier to use, cheaper to buy, have a high gripping force and are lighter than other grippers.
4. There are three ways to make AutoCAD quicker and easier to use. First and foremost, is using blocks and layers to automate your work flow.
5. And when it comes to ROI, provide evidence to back it up. The clearer and more concise your ROI message is, the better the chance to win or sustain business. (ROI: Return on Investment)
6. One alternative which at least negates the need for electricity is known as photochromic.
7. We worked for months to get the equations cleaner and cleaner, until we got to the point where we could describe the connection between the output light and the input correlations with just one compact equation.
8. In hot riveting, the diameter of the rivet hole should be slightly larger than the diameter of the rivet rod due to thermal expansion and thickening.
9. The remaining solids are filtered and the water is boiled down until it thickens. The thicker the solution, the faster it will dry.
10. In the absence of a magnetic field, the resistance of purple bronze was highly dependent on the direction in which the electrical current is introduced. Its temperature dependence was also rather more complicated.
11. The good news is that recycling or donating anything with plugs, batteries, or cables has never been simpler or more accessible. So get to your nearest recycling location available here and make the most out of your unused FastTech items.
12. However, research shows that the more cobot and human work together (and are interdependent), the more they benefit from each other's qualities.
13. Industrial automation and IT are two different things, but current technological developments are bringing these two fields closer and closer together
14. Nanoparticles (nano-composite) are being used for the purposes of manufacturing gold clubs. By replacing the former material with nano-composite, it has become possible to not only make the clubs lighter, but also stronger.

- 15.. In general, the longer the occupation of a specific space, the more enduring its effects tend to be.
16. With lidar, solutions for blind spot monitoring, lane centering, and automatic parking assistance are becoming more and more accessible for businesses.
17. Pulling ideas from materials such as bird skulls, polar bear fur, and mimosa leaves, it created a design with far lower projected energy consumption.

VERBOS CON PARTÍCULA.

Verbos de movimiento con partícula: su traducción

- Es frecuente que en inglés el verbo en sí mismo indique un tipo de movimiento determinado, y que la preposición muestre el camino o la dirección de ese movimiento.
- Estos verbos se traducen normalmente en español con un verbo que indica la dirección del movimiento. Un complemento circunstancial indica el tipo de movimiento.
- Algunos verbos de movimiento son: walk, step, go, run, hurry, speed, fly, slip, escape, creep, limp, etc.

- | |
|--|
| <ul style="list-style-type: none">• To creep out: escapar sigilosamente• To march up: dirigirse hacia alguien con paso decidido• To rush in: entrar apresuradamente, entrar a toda prisa• To run away: alejarse corriendo |
|--|

B. Traduzca las siguientes oraciones con verbos con partícula.

1. Researchers use bacteria to produce biodegradable plastic from renewable raw materials (and break down traditional plastic too).
2. Renewable energy comes from naturally replenishing sources that do not run out.
3. When the fire alarm went off, everyone rushed out of the building
4. The protons and neutrons that make up an atom's nucleus are so small that researchers have a difficult time measuring them directly.
5. Large icebergs float away as the sun rises near Kulusuk, Greenland,
6. Facilities teams often need months to create models that can interpret sensor data and adapt lights and heating to work around the ebb and flow of occupants. AI systems can figure out these patterns within days.
7. Chen proposed a mobile system called iBaby for monitoring and finding children who drift away from their parents using IoT devices (wearables) to actively detect if they are being led away by strangers.

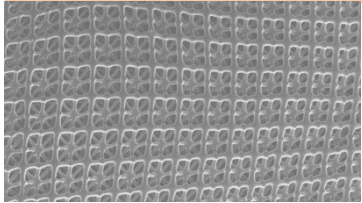
3. C. Traduzca los segmentos marcados y responda Verdadero o Falso

New wonder material designed by AI is as light as foam but as strong as steel

By [Ben Turner](#)

published January 31, 2025

The new technique could produce materials for use in helicopters, airplanes and spacecraft.



An image of the new nanomaterial. (Image credit: Peter Serles/University of Toronto Engineering)

Scientists have used [artificial intelligence](#) (AI) to design never-before-seen nanomaterials with the strength of carbon steel and the lightness of styrofoam.

The new nanomaterials, made using machine learning and a 3D printer, more than doubled the strength of existing designs. The scientists behind the new study said they could be used in stronger, lighter and more fuel-efficient components for airplanes and cars. They published their findings Jan. 23 in the journal [Advanced Materials](#).

"We hope that these new material designs will eventually lead to ultra-light weight components in aerospace applications, such as planes, helicopters and spacecraft that can reduce fuel demands during flight while maintaining safety and performance," co-author [Tobin Filleter](#), a professor of engineering at the University of Toronto, [said in a statement](#). "This can ultimately help reduce the high carbon footprint of flying."

In many materials, strength and toughness can often be at odds. Take a ceramic dinner plate, for example: while plates are usually strong and can carry heavy loads, their strength comes at the cost of toughness — it doesn't take much energy to make them shatter.

The same problem applies to nano-architected materials, whose construction from multitudes of tiny, repeating building blocks 1/100th the thickness of a human hair makes them strong and stiff for their weight, but can also cause stress concentrations that lead to sudden breakages. So far, this tendency to shatter has limited the materials' applications.

"As I thought about this challenge, I realized that it is a perfect problem for machine learning to tackle," first-author [Peter Serles](#), an engineering researcher at Caltech, said in the statement.

To search for better ways to design nanomaterials, the researchers simulated possible geometries for their design before passing them through a machine learning algorithm. By learning from the designs they had generated, the algorithm was able to predict the best shapes that would evenly distribute applied stresses while also carrying a heavy load.

With these shapes in hand, the researchers used a 3D printer to create their new nanolattices, finding that they could withstand a stress of 2.03 megapascals for every cubic meter per kilogram — a strength five times higher than titanium.

"This is the first time machine learning has been applied to optimize nano-architected materials, and we were shocked by the improvements," Serles said. "It didn't just replicate successful geometries from the training data; it learned from what changes to the shapes worked and what didn't, enabling it to predict entirely new lattice geometries."

The researchers said their next steps will center on scaling up the materials until they can be used to make bigger and bigger components, while also searching for even better designs using their process. The primary aim is to design much lighter and stronger components for vehicles in the future.

"For example, if you were to replace components made of titanium on a plane with this material, you would be looking at fuel savings of 80 litres per year for every kilogram of material you replace," Serles said.

1. Machine learning algorithms and 3D printing technology were combined to fabricate the new nanomaterial
2. The structural enhancement of this material is modest, showing only a slight improvement over existing designs.
3. The newly created nanolattices are much weaker than titanium when bearing heavy loads

PARTE B: Clase virtual asincrónica:

Comprensión de textos: Tipología de ejercicios de comprensión 5.

En el Aula Virtual lea el texto y realice las actividades propuestas, recuerde que dispone de un tiempo limitado para realizarlas.

TRABAJO PRÁCTICO N° 10

PARTE A: estructuras y vocabulario.

- **Modo subjuntivo parte II:** en oraciones condicionales, expresiones *keep from, prevent from, stop from, enable to, allow to, be likely to*, causativos. Introdutores *it y there*.

A. Traduzca las siguientes oraciones

1. Failures due to rapid wear can substantially be reduced by specifying appropriate lubricants. These create interfacial incompressible films that keep the surfaces from contacting.
2. Known as the ZNK95 (above), the truck features a fully cab-less design – meaning there isn't even a place for an operator to sit, let alone operate.
3. Entanglement is a quantum property which links two different particles so that if you measure one, you automatically and instantly know the state of the other – no matter how far apart they are.
4. Chromatography is a lab technique which enables scientists to separate the components of a mixture.
5. Within the pharmaceutical industry, semi-autonomous machines are widely used. Normally these are loaded and unloaded by an employee. However, it is also possible to have this task done by a robot.
6. There are passive, active, or even ultra-intelligent smart clothing, i.e., that adapts to the environment as if it were an organism.
7. The new measure is expected to include several provisions to prevent Chinese firms from accessing restricted hardware such as GPUs through intermediary countries, which remains a significant means of circumventing US export controls.
8. Forest have recommended walking up and down the aisles of an airplane (when the "Wear Seatbelt" sign is off) to get your blood flowing.
9. Eugene Houdry had developed a catalytic process in the late 1930s to make high-octane fuel, which can withstand higher compression and allows engines to deliver more power
10. Because a cobot is so easy to program, it can be quickly implemented in a process and it is even possible to have it perform different tasks.
11. It is thus essential that the built environment supports the leveraging of such advanced technology in smart campuses and smart cities.
12. Where the true difficulty lies, perhaps, is in how to reconcile quantum physics with our intuitive reality. Not having all the answers won't stop us from making further progress with quantum technology.
13. Until and few years ago, it took a lot of customization and complex programming to get machines and robots to communicate with each other.

14. These are turbulent times for many companies in the manufacturing sector. With rising prices and a global labor shortage, it is essential for companies to look at how to stay competitive and continue to grow.
15. The insertion of ALD layers, whatever the architecture or the material is, promotes the hydrophobicity of the coating. (ALD: Atomic Layer Deposition)
16. The University of Illinois microreactor will be built next to the Abbott coal plant. It could take a few years to get construction permits approved, but Grunloh's hopeful the nuclear reactor in Champaign could be up and running by 2030.
17. To produce the thin films, the researchers used a process called physical vapor deposition (PVD), which involved heating thorium fluoride in a chamber until it vaporized.
18. In order for humans to reap the full benefits of utilising service robots, it is vital to consider and ensure the safety of these service robots.
19. Volvo will reveal another new addition to its HDEV line-up. None of them are likely to show up with a practical battery-swap EV solution that's ready to deploy, today.
20. Consultants had earlier found that the building's glass could not withstand thermal stress, which occurs when a warm area of glass expands against a cooler area, creating pressure that can cause it to crack.
21. As for vacuum grippers, it is wise to use a gripper that does not require an external air supply.

HAVE

1. TENER, COMER, BEBER, TOMAR

- Small robots with the corresponding small grippers have a pneumatic drive.
Los robots pequeños con sus pinzas/agarraderas pequeñas tienen una tracción neumática.
- Astronauts could have coffee in Mars.
Los astronautas podrían tomar/beber café en Marte.
- Workers have breakfast in the Company.
Los trabajadores toman el desayuno en la Compañía.
- Our mind-set determines what vegetables we will have.
Nuestra mentalidad/actitud determina qué vegetales comeremos.

2. + PARTICIPIO PASADO (-ED/3RA. COLUMNA): HABER

- Japanese developers have been working on an artificial muscle consisting of a rubber hose, tension-proof fibers, and a protective collar.
Los desarrolladores japoneses han estado trabajando en un músculo artificial que consiste en una manguera de goma, fibras a prueba de tensión y un collarín protector.
- China has nearly tripled its lithium reserves.
China casi ha triplicado sus reservas de litio.

3. SEGUIDO DE TO: TENER QUE

- The glass had to be ultrapure, free from foreign atoms.
El vidrio tenía que ser ultrapuro, libre de átomos extraños.
- This means that each pizza doesn't have to be prepared from scratch.
Esto significa que cada pizza no tiene que ser preparada desde cero/desde el principio.

4. SEGUIDO DE FRASE NOMINAL + PARTICIPIO PASADO/ INFINITIVO/ -ING: HACER QUE

- Robots, especially cobots, are very easy to program. This makes it possible to have them perform different tasks in a short period of time.
Los robots, especialmente los cobots, son muy fáciles de programar. Esto posibilita hacer que desempeñen diferentes tareas en un período corto de tiempo.
- The motors spinning the opposite direction have their speeds increased.
Los motores que giran en la dirección opuesta hacen que su velocidad se incremente.
- In addition to the racquets, scientists are also working to improve the balls used in tennis and have them bouncing longer.
Además de las raquetas, los científicos están, también, trabajando para mejorar las pelotas usadas en tennis y hacer que reboten por más tiempo

AL PRINCIPIO DE LA ORACIÓN.

5. HAD AL PRINCIPIO DE UNA ORACIÓN NO INTERROGATIVA, SEGUIDO DE FRASE NOMINAL PARTICIPIO PASADO + : SI ... HUBIERA/HUBIESE

- Had the nucleus had a positive charge, the result would have been different.
Si el núcleo hubiera/hubiese tenido carga positive, el resultado habría sido diferente.

6. PREGUNTA: HABER

- Had Quaise Energy hoped to convert an old coal power plant into a geothermal plant?
¿Había Quaise Energy esperado (deseado) convertir una planta de energía de carbón/a base de carbón en una planta geotérmica?

Quaise Energy, una empresa derivada del MIT, está trabajando para crear pozos geotérmicos a partir de los agujeros más profundos del mundo.

B. Observe el siguiente cuadro.

Enable (permitir)	enable + persona gramatical + to inf (permitir que)
It enables quick decision making Permite tomar decisiones rápidamente	It enables those involved to keep organized Permite que aquellos involucrados se mantengan organizados.
Allow (permitir)	allow + persona gramatical + to inf (permitir que)
They will not allow the internal suboperations. No permitirán las suboperaciones internas	Predetermined time systems allow the analyst to visualize the work. Sistemas de tiempo predeterminados permiten que los analistas visualicen el trabajo.
keep	Keep ... from + ing (evitar que)
It is important to keep the quality at the specified level. Es importante mantener la calidad al nivel especificado.	The mud cleaner screen keeps larger particles from entering the system. La pantalla/rejilla limpiadora de barro evita que las partículas grandes entren al sistema.
prevent	prevent ... from + ing (evitar que)
This device will prevent the shaft movement. Este dispositivo prevendrá/evitará el movimiento del eje.	This device will prevent the shaft from moving. Este dispositivo evitará que el eje se mueva.
restrict	restrict ... from + ing (evitar que)
He restricted his work to that of observing. (Él) restringió su trabajo a la observación/a aquél de observar.	They restricted the fluid from spilling. (Ellos) evitaron que el fluido se derramara.
stop (parar, detener)	stop ... from + ing (evitar que)
They stopped the production of that product. (Ellos) pararon la producción de ese producto.	We cannot stop workers from thinking. No podemos evitar que los trabajadores piensen.
cause (causar)	cause + persona gramatical + to inf (Hacer que)
The failure of a single component (even minor) can cause shutdown of the module or entire system. La falla de un solo/único componente (aún sea el menor) puede causar el cierre del módulo o del sistema completo.	The design of the machines caused ergonomic problems to occur. El diseño de las máquinas/la maquinaria hizo que ocurriera el problema ergonómico.

C. Traduzca las oraciones apropiadamente según su contexto y función.

1. Additionally, the use of multiple lasers and advanced algorithms allows for higher resolution and improved accuracy.
2. There was a hardware error that prevented the FCB from calculating the altitude at which the UAV was flying.
3. Regular maintenance is essential to keep iron gates and railings in good repair.
4. Nevertheless, all will benefit from integrated digitalization to enable them to be more responsive to their customers in order to produce timely products with reliable high quality.
5. The hydrophobicity caused the decrease of the corrosion current density

6. The microscale allows us to combine the excellent properties of the different materials in a composite
7. Several factors have caused the packaging industry to become more complex.
8. Within the construction and manufacturing industries, lidar enables accurate and efficient surveying, planning, and quality control.
9. The roof had been designed to release rainwater slowly to keep from inundating the nearby West Bottoms area. Sadly, this unfortunate design allowed rainwater to collect and pool on the roof.
10. The temptation to feel how rough the surfaces are should also be avoided to prevent abrasion and contamination by grease

D. Lea el texto que está a continuación y traduzca las oraciones marcadas

By [Hayden Horner](#)

on January 14th, 2025

Trends to Watch in 2025 and Beyond

As we look ahead to 2025 and beyond, the engineering sector is poised for a period of remarkable transformation. From [the rise of renewable energy](#) to advancements in artificial intelligence (AI), robotics, and cybersecurity, engineers will play a pivotal role in shaping the future of our world.

Technological innovations and societal shifts are driving these changes, and both professionals and companies in the engineering field need to stay agile and forward-thinking to thrive in this dynamic environment.

The [Engineering Institute of Technology](#) (EIT), believes that staying ahead of the curve is essential for success. **Their courses are designed to ensure that students are equipped with the skills and knowledge needed to lead in these areas, preparing them for the evolving landscape of engineering.**

The Rise of Renewable Energy and Sustainability

The global push toward sustainability has never been more urgent. With net-zero targets becoming a key priority for governments, organizations, and individuals, the demand for renewable energy sources such as wind, solar, and green hydrogen is skyrocketing.

In addition to energy production, industries such as manufacturing, construction, and transportation are being redefined by energy-efficient design and green technologies.

Implications for Engineers: Engineers with expertise in sustainable energy, environmental impact assessments, and green technologies are in high demand. **The future of engineering will require professionals who can innovate and design systems that minimize environmental harm while maximizing efficiency.**

How EIT Prepares Engineers for Sustainability: EIT offers specialized programs in sustainable engineering that equip students with the skills to design and implement energy-efficient systems and renewable energy solutions. **Courses focusing on sustainable energy technologies and environmental engineering ensure that graduates are prepared to meet the growing demand for green technologies and contribute to global sustainability efforts.**

Implications for Companies: For companies looking to position themselves as leaders in sustainability, hiring engineers with expertise in renewable energy technologies and environmental sustainability will be key. Embracing green practices not only helps businesses meet regulatory standards but also appeals to eco-conscious customers and stakeholders. Organizations that invest in sustainable solutions will set themselves apart in an increasingly environmentally aware market.

Artificial Intelligence (AI) and Robotics in Engineering

AI and robotics are rapidly changing the landscape of engineering. Automation, data analysis, and AI-driven design are becoming integral to a range of engineering disciplines, including civil, mechanical, and electrical engineering. From autonomous robots in construction sites to AI systems that optimize design processes, these technologies are making engineering more efficient and precise.

Implications for Engineers: Engineers who understand AI, machine learning, and robotics will be in high demand. **As AI technologies evolve, the need for professionals who can design, implement, and maintain these systems will only grow.** Engineers must embrace continuous learning to stay at the forefront of these technologies and adapt to their integration into engineering practices.

How EIT Prepares Engineers for AI and Robotics: EIT's courses in mechatronics, robotics, and artificial intelligence are tailored to prepare students for the rapidly evolving intersection of engineering and technology. Students gain hands-on experience with AI algorithms, machine learning, and robotics systems, positioning them to implement cutting-edge solutions in their careers. **EIT's focus on practical, real-world applications ensures that graduates are ready to meet the growing demand for skilled engineers in these fields.**

Implications for Companies: Implementing AI and robotics into engineering practices can greatly enhance productivity and reduce human error. For companies, this means improved cost-efficiency and the ability to tackle more complex projects. However, adopting these technologies requires skilled professionals capable of ensuring smooth integration and optimizing these systems for long-term success.

Remote Engineering and Virtual Collaboration

The COVID-19 pandemic accelerated the adoption of remote work, and this shift is becoming permanent in many sectors, including engineering. Remote engineering is now commonplace, especially in fields such as software development, project management, and civil engineering. **Virtual collaboration tools allow engineers to work from anywhere, opening up a global talent pool for companies and enabling professionals to manage projects remotely.**

Implications for Engineers: The ability to work remotely is a valuable skill for engineers, as it allows them to engage in projects without geographical constraints. Proficiency in virtual collaboration tools, such as project management platforms, video conferencing software, and cloud-based design tools, will be essential for engineers to stay competitive in the global job market.

How EIT Prepares Engineers for Remote Work: At EIT, we embrace the future of remote engineering by providing courses that incorporate virtual collaboration tools and project management techniques. Through online and hybrid learning formats, students gain the flexibility to work and communicate remotely, simulating real-world engineering environments. **This approach ensures that EIT graduates are well-equipped to manage projects and collaborate with global teams in diverse, remote settings.**

Implications for Companies: Embracing remote work enables companies to hire the best talent regardless of location, creating more diverse and inclusive teams. However, remote work requires companies to invest in secure, efficient digital tools to maintain smooth communication, project tracking, and collaboration across global teams. **The engineering firms that excel at virtual collaboration will be able to attract top-tier engineers and respond to global demands more swiftly.**

Cybersecurity in Industrial Systems

With the increasing digitalization of industries, cybersecurity has become a critical focus. From smart cities to industrial control systems, the need to safeguard infrastructure from cyber threats is more urgent than ever. Engineers working in fields such as energy, manufacturing, and construction must design secure systems capable of withstanding evolving cyber threats.

Implications for Engineers: Engineers with a background in cybersecurity, particularly those working with IoT devices, digital control systems, and industrial automation, will be in high demand. **The future of industrial engineering will require professionals who can identify vulnerabilities, design secure networks, and implement robust cybersecurity measures to protect critical infrastructure.**

Implications for Companies: As industries become more connected, companies must prioritize cybersecurity to prevent data breaches, system failures, and operational disruptions. Firms that invest in skilled cybersecurity professionals will not only protect their systems but also build trust with clients and stakeholders who depend on secure, reliable engineering solutions.

Emphasis on Workforce Diversity and Inclusion

Diversity and inclusion are central to the future of engineering. Traditionally, engineering has been a male-dominated field, but in recent years, there has been a concerted effort to create more inclusive workplaces. Diverse teams bring varied perspectives, fostering creativity and improving problem-solving. This is essential in a field like engineering, where innovation is key to addressing complex global challenges.

Implications for Engineers: Engineers from diverse backgrounds are encouraged to pursue careers in the field, bringing their unique insights and experiences to the table. **Companies that prioritize diversity will benefit from a broader range of ideas, leading to better solutions for clients and communities.**

How EIT Fosters Diversity and Inclusion: EIT is committed to creating a diverse and inclusive learning environment. They encourage students from all backgrounds to join their programs, where they will find a supportive community that values diverse perspectives. By providing equal opportunities for all, they aim to shape the future of engineering with teams that are not only highly skilled but also represent a wide range of viewpoints and experiences. The institution's international staff compliment, learning platform and approach to pricing gives students access to education – further fostering diversity and inclusion.

Implications for Companies: Emphasizing diversity is not just a matter of ethics; it's a business strategy. Organizations that foster inclusive workplaces can attract top talent, improve team performance, and enhance their reputation. By prioritizing diversity in recruitment, training, and leadership, companies will position themselves as forward-thinking and adaptable in a competitive market.

Looking Forward: Embracing Change

Whether it's in renewable energy, AI, cybersecurity, or remote collaboration, the opportunities are vast—and the future is bright.

Más conectores

Conectores Sumativos o Aditivos

Conector en Inglés	Traducción al Español
In addition / Additionally	Además, adicionalmente
Furthermore / Moreover	Es más, además, por otra parte
Besides	Además, aparte de esto
What is more	Lo que es más, más aún
In the same way / Similarly	De igual manera, de forma similar
Not only... but also...	No solo..., sino también...

Conectores de Oposición y Contraste	
Conector en Inglés	Traducción al Español
However	Sin embargo
Nevertheless / Nonetheless	No obstante, sin embargo
On the other hand	Por otro lado, en cambio
In contrast / By contrast	En contraste, por el contrario
Whereas / While	Mientras que
Although / Even though	Aunque, a pesar de que
Despite / In spite of	A pesar de
Conversely	A la inversa, por el contrario
Conectores de Causa y Consecuencia	
Conector en Inglés	Traducción al Español
Because	Porque
Since / As	Ya que, dado que, como
Because of / Due to	Debido a, a causa de
Owing to	Debido a
Therefore	Por lo tanto, por consiguiente
Consequently / As a result	En consecuencia, como resultado
Thus	Por lo tanto, así

Hence	De ahí que, por ende
So	Así que, por lo tanto
Conectores de Propósito o Finalidad	
Conector en Inglés	Traducción al Español
In order to / So as to	Para, con el fin de
So that / In order that	Para que, de modo que
To	Para
With the aim of / With a view to	Con el objetivo de, con miras a
Conectores de Conclusión y Resumen	
Conector en Inglés	Traducción al Español
In conclusion / To conclude	En conclusión, para concluir
In summary / To summarize	En resumen, para resumir
In short / Briefly	En pocas palabras, brevemente
Overall	En general, en conjunto
Ultimately	En última instancia, en definitiva

PARTE B: Clase virtual asincrónica:

Comprensión de textos: Aviso de ofrecimiento de empleo 4.

En el Aula Virtual lea el texto y realice las actividades propuestas, recuerde que dispone de un tiempo limitado para realizarlas.

TRABAJO PRÁCTICO N° 11

PARTE A: estructuras y vocabulario.

- **Expresiones críticas para la traducción.**

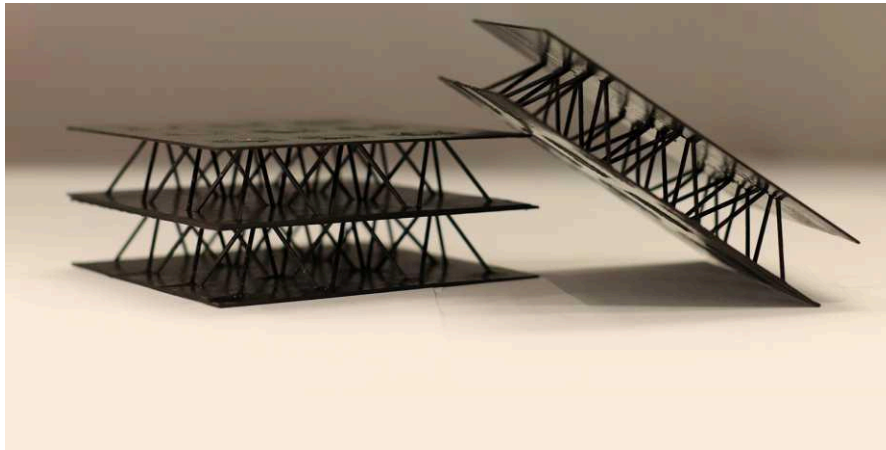
A. Traduzca las siguientes oraciones

1. These properties feature main floor amenities and apartments units on the upper floors. Similarly, other developments in this fashion can have office buildings mixed into residential areas in a “main street” configuration.
2. As a result, it was confirmed that the water treatment membrane coated with the oxidized polymer could purify phenolic contaminants through sunlight.
3. The OmniGrip robotic arm is a five-axis foldable mechanism housed within the vacuum’s compact 7.98 cm body.
4. Three cases of aircraft accidents are described as involving failure by fatigue. All of them relate to components, rather than to the main structure of the aircraft.
5. A robot will always perform a task in exactly the same way. Unlike a human, who loses concentration when faced with a boring, repetitive task and becomes sloppier as a result.
6. The new Panoramic iDrive system, powered by the BMW Operating System X, constitutes a bold new move for BMW. Any car using the system will no longer feature a traditional dash cluster.
7. The top 15 failures with the highest RPN values out of the total 65 failures are seen in Fig. 1
8. The way biological systems solve problems is pretty different from the way engineered systems solve problems.
9. Since the first planet orbiting a star other than the Sun was discovered in 1995, we have realised that planets and planetary systems are more diverse than we ever imagined.
10. Adaptive reuse is not only trendy, but it can also reduce waste by keeping buildings from being demolished. Moreover, it helps to bridge history with the future and make sure unique buildings and culturally significant spaces are carefully considered and maintained.
11. Due to a unique additive, the new concrete ConFlexPave has gained flexibility and strength that is up to 3 times higher than that of traditional concrete.
12. Nevertheless, titanium dioxide coatings are semiconductors and poor ion barriers, and thus they fail to provide long-term corrosion protection for the underlying metal substrates.
13. As a semiconductor, silicon conducts electricity better than materials such as ceramics and glass do, but not as well as metals. This in-between status makes it possible to control how electrons zip around a semiconductor.
14. Gypsum board is a panel made of gypsum plaster sandwiched between thick sheets of paper.
15. Graphene is approximately thirteen times (13x) more thermally-conductive than copper.

16. Schwartz, who chaired the jury, described the 15-Minute City concept as "a real step towards the future. (The jury for the Obel Award 2021 included landscape architect Martha Schwartz)
17. Over the course of a year, on average, there would only be interactions between one or two neutrinos out of the trillions that go through your body every second.
18. Experts explain how examples of biomimicry in architecture and engineering are fueled by the utility, efficiency, and beauty of nature.
19. Stories continue to live as long as they summon ambiguous emotions, as long as they resonate with real dilemmas and are good to think with.
20. They found that this amount could be reduced by as much as 71% if a variety of mitigation options were used around the world. (total global carbon dioxide (CO₂) emissions from the life cycle of gas-fired power is 3.6 billion tonnes each year)
21. Engineers frequently substitute advanced composite materials for traditional steel in aerospace applications to achieve significant weight reduction without compromising structural integrity.

B. Traduzca la introducción del texto y el segmento correspondiente.

Sandwich structures could deliver new materials for aerospace



Researchers at ETH Zurich in Switzerland are developing the composite materials of the future by optimising the core elements of sandwich structures.

The researchers say this will enable them to create materials that are incredibly light, robust and adaptable, and therefore ideal for aerospace applications.

A R Q U I T E C T U R A - C I V I L - P E T R Ó L E O S	More with less Paolo Ermann, professor for Composite Materials and Adaptive Structures at ETH, says: “It is our philosophy to develop modern composite materials for adaptive systems and, while doing so, to optimise their structural efficiency – that is, obtaining the same performance with fewer resources or better functionality with the same amount of material.” Sandwich structures typically consist of two thin, stiff cover layers and a low-density core material. “In our research, we develop high-performance sandwich composites made of carbon fibre-reinforced polymers, also known as CRP’s or simply carbon fibre. In this approach, the core consists of a truss structure of carbon fibre rods”, says Christoph Karl, a PhD student working on the project. The mechanical properties of carbon fibre mean that these core structures can have greater stiffness and stability than conventional foam or honeycomb cores. According to Karl, another significant advantage of the truss cores is the load-optimised design capability. He explains: “The mechanical properties of the sandwich composite depend strongly on the core topology – in other words, on the arrangement and orientation of the rods inside the core. With the help of numerical optimisations, we can tailor the orientation of the rods to specific external loads and thus maximise the structural efficiency for a particular application.”
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M E C A T R Ó N I C A - L C C - I N D U S T R I A L	Applications in aerospace The core of a sandwich material constructed and optimised in this way weighs less than 30 kg per cubic metre (a cubic metre of steel weighs in at around 8,000 kg). “This makes our materials particularly interesting for aerospace applications, where structural efficiency is of crucial importance,” says Karl. “Moreover, it is possible to integrate additional features, such as vibration damping, directly into the core structure.” The team is investigating applications of the new sandwich structures through the EU project ALTAIR, led by the French aerospace lab Onera. Ermanni’s research group is involved in the development of load-bearing structures of new deployment systems for small satellites. Towards 4D printing Spin-off company 9T Labs, co-founded by Ermanni’s PhD student Martin Eichenhofer, is also developing a 3D-printing technology that can be used to produce high-quality carbon fibre components, such as the rods for sandwich structure cores. “First and foremost, this is about expanding the range of application of such materials through novel production techniques, which will enable smaller companies to use them as well. This democratises lightweight construction technologies, as it were,” says Eichenhofer. “This procedure also opens up the possibility of integrating active elements directly into the printing process in the future, thus realising 4D-printing,” Ermanni adds.
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PARTE B: Clase virtual asincrónica:

Comprensión de textos: Aviso de ofrecimiento de empleo 5.

En el Aula Virtual lea el texto y realice las actividades propuestas, recuerde que dispone de un tiempo limitado para realizarlas.