



INTI

Instituto Nacional
de Tecnología Industrial



Secretaría de
Industria y Comercio
Ministerio de Economía

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YEAR 2025



METROLOGY

SMEs EXPORT

Argentine technology and innovation



INSTITUTIONAL RELATIONS AND COMMUNICATIONS OPERATIONAL MANAGEMENT
Institutional Relations Deputy Management

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Editorial



The science of measurement (metrology) is the universal language of industry. Without it, commerce becomes uncertain, quality is relative, and innovation loses sustenance. For more than half a century, INTI has played a leading role in this challenge, accompanying Argentinean companies as the highest national benchmark for measurements.

We are celebrating the 50th edition of News Pymes Exportan with a fundamental axis: metrology. A field that transcends the laboratory and becomes an essential tool for production, exportation and development of the national industry.

INTI is not only the National Metrology Institute of Argentina. It is also a strategic partner of SMEs and industry on their way to excellence. The ability to measure accurately is not a technical luxury, but a concrete need to ensure competitiveness and international recognition of national production.

Our country has an outstanding history in the manufacture of measuring instruments. Since the mid-19th century, the Argentine industry has developed scales, tape measures developed scales, measuring tapes, electric power, gas and water meters, kinemometers and sensors of various technologies. In addition to this, we have developed standards of the highest accuracy, certified reference materials, and now measuring systems with artificial intelligence, typical of Industry 4.0.

The metrological traceability provided by INTI through national measurement standards is the basis on which quality and trust are built. It is the guarantee that Argentine products comply with the most stringent standards, facilitating their access to international markets.

The economic impact of metrology

The role of metrology in international trade is undeniable. In sectors such as pharmaceuticals, automotive and aerospace, the accuracy of measurement defines success or failure in global markets.

Argentina is not unaffected by this reality. The ability of its companies to measure accurately has a direct impact on their ability to export. Ensuring confidence in measurements means eliminating technical barriers to trade and opening new opportunities for domestic industry.

In order to guarantee international recognition of the measurements carried out in our country, we signed an Agreement for Mutual Recognition of National Measurement Standards and Calibration and Measurement



Certificates issued by the National Metrology Institutes (CIPM-MRA), by which the participating institutes recognize among themselves the validity of their measurement standards, as well as calibration and measurement certificates.

A renewed commitment

INTI has accompanied the growth of the Argentine industry for almost seventy years, offering technology, knowledge and quality guarantees. Our commitment is to continue promoting the competitiveness of national companies, providing the necessary tools for their products to be recognized and valued in the world.

Measurement is not only a technical issue. It is the foundation for development, innovation and opening of new markets. It is, in short, the bridge that links industrial excellence with economic growth.

In this special edition of the Pymes Exportan News, we celebrate path we have taken and renew our mission: to continue growing together with the Argentine industry, with the certainty that metrology is the key to development.

Héctor Laiz

Manager of Metrology and Quality at INTI and member of the International Committee of Weights and Measures (CIPM)



KRETZ SA



Electronic scales that transcend borders



For decades, Argentina has been home to companies that face cyclical crises with ingenuity and determination. A clear example of this is Kretz SA, a leader in electronic weighing and technological solutions for industry and commerce. With a 60-year track record, its development and consolidation have positioned it as a benchmark in Argentina and Latin America.

The origin of this company has its starting point in a stroke of fate. It was 1963 when Carlos Kretz, a sales engineer, lost his job. Undaunted by the situation, he made the decision to start his own business. He started manufacturing door entry phones and temperature controllers, but the turning point came in 1980, when an industrial company asked him for a weight dosing device. That was the first contact with weighing technology.

In the middle of the economic crisis, a key question arose: “What is the last thing people stop doing in times of crisis?” The answer was obvious: eating.

In 1985, Kretz set a milestone by developing the first electronic scale, a product that quickly became a hit in the marketplace. This achievement enabled him, in the 1990s, to design, produce and export Argentina’s first labeling scale. This consolidated his leadership in the manufacture of electronic scales, specializing in innovative solutions for the food sector.

Today, Kretz exports its products to Brazil, the United States, Mexico, Paraguay, Uruguay and several countries in Central America and the Middle



East. “The exporting vocation is part of our DNA. From the first equipment shipped to Cuba in 1974 to our recent expansion in Brazil, each market drives us to innovate,” says Marisel Nievas, the company’s vice president.

With a strategy focused on strengthening its international presence, the company is seeking to expand its participation in the United States, confident of the quality and technology of its products to consolidate its position in this strategic market.

Quality and certification are fundamental pillars for Kretz. Collaboration with the National Institute of Industrial Technology (INTI) has been fundamental. “The joint work with INTI not only ensured compliance with technical and legal standards but also allowed Kretz to improve its penetration in international markets,” emphasizes Leandro García, Technical Director of Legal Metrology at INTI.

Since 2003, Kretz has been working with INTI for the homologation of its weighing equipment and fiscal controllers. This process required investments in equipment, personnel training and the adoption of new internal procedures.

“INTI acts as our technical back-up, conducting annual audits and certifying that our scales and checkweighing equipment meet the required standards. This ensures transparency and confidence for both consumers and the Customs Collection and Control Agency (ARCA),” adds Nievas.

Far from limiting itself to corporate social responsibility, Kretz has adopted a “corporate sustainability” model. This commitment was recognized with the Latin America Quality Institute’s “Total Responsibility Award” in 2024, a prize that evaluates quality, environmental impact, and community commitment throughout Latin America.



The size of the global electronic weighing machine market was valued at USD 3.53 billion in 2024 and is projected to reach USD 4.64 billion in 2032.

Source: Data Bridge Market Research

This company is distinguished not only by its history and its ability to adapt, but also by its unwavering commitment to excellence and innovation. Throughout the years, the company has been able to reinvent itself without losing its identity, integrating without losing its identity, incorporating technological advances without neglecting the craftsmanship quality.

This balance between tradition and modernity has allowed it to remain a benchmark in the sector, demonstrating that constant evolution is the key to success.

This Argentine company not only designs and manufactures electronic scales but has also built a legacy that positions it as a global benchmark in technology applied to commerce and industry.



KRETZ SA

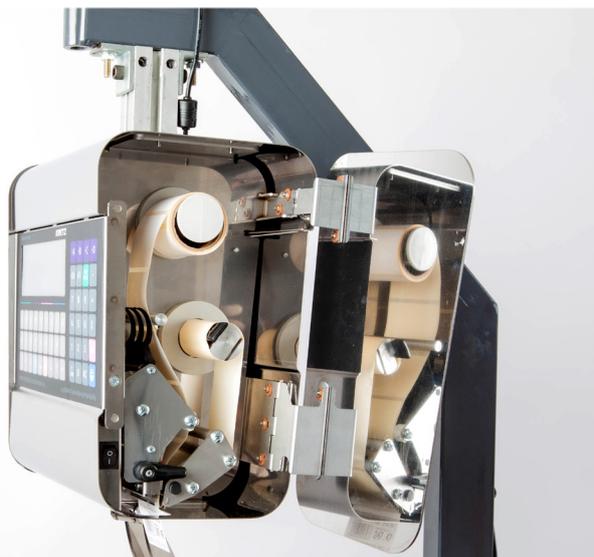
Rosario, Santa Fe

Manufacture of electronic weighing and technological solutions for industry and commerce.

- 3.800 m² plant
- Annual production capacity: 60,000 pieces of equipment (electronic scales and fiscal controllers)

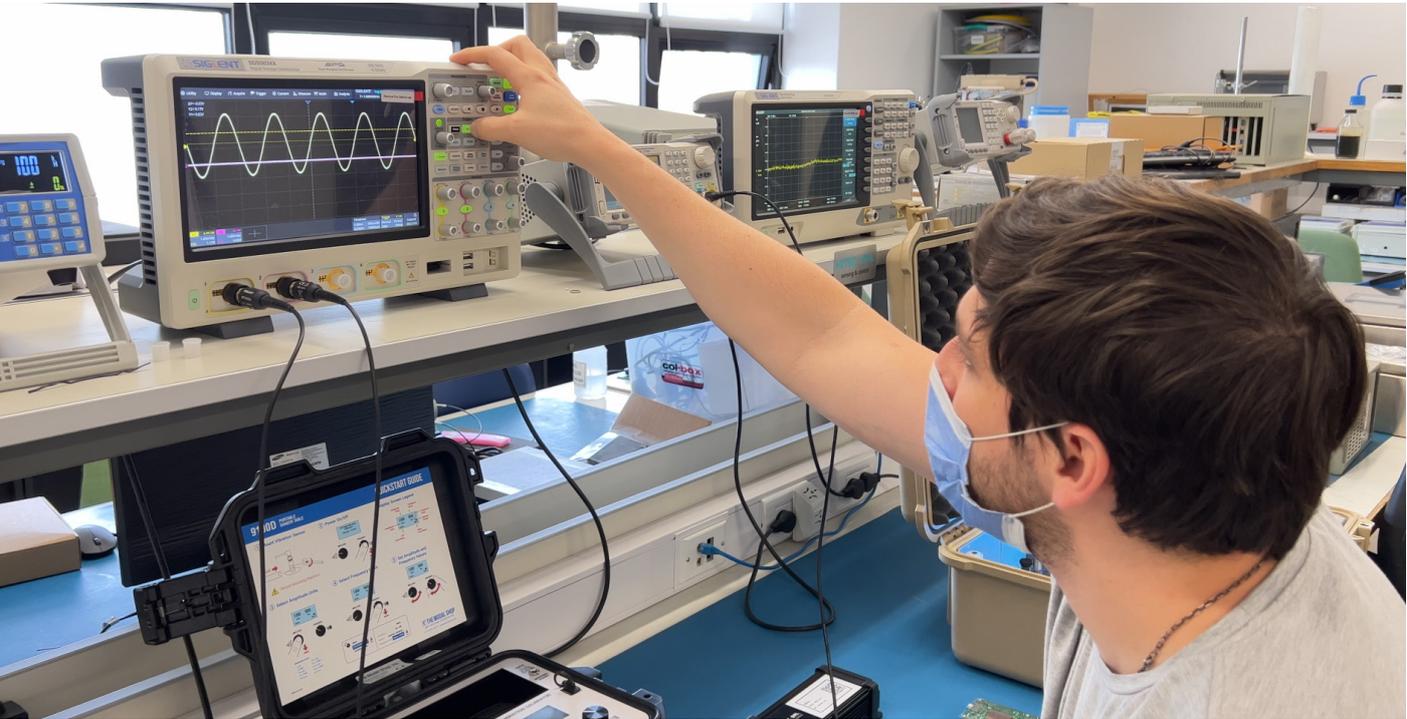
• HS CODE:

- 8423.82.00.100K / Weighing apparatus and instruments. With capacity exceeding 30kg.
- 8423.81.10.190M / Counter scales and balances with capacity up to 30 kg, with device.30kg, with device.
- 8423.81.90.100L / Scales and balances up to 30 kg capacity.
- 8413.90.29.390D / Parts for scales, balances and other weighing instruments weighing instruments.
- 8470.50.19.900V / Cash registers.





A bridge between artificial intelligence and industrial excellence



In 1986, a visionary named Rodolfo Díaz, barely 31 years old, decided to embark on a path that would change the course of the Argentine technology industry. While working at the Institute for Scientific and Technical Research of the Armed Forces (CITEFA), he detected an opportunity in the digital scales market. Thus, HITEC was born, with the development of digital industrial scales mainly for the chemical, food and nuclear sectors. An important milestone for the company was the incorporation of weighing systems for the uranium enrichment plant in Pilcaniyeu, Río Negro province.

Thus, the company maintained a sustained growth and after venturing into the pharmaceutical industry in 1990, it faced the challenge of accurately measuring milligrams in tablets, which were manufactured at a rate of several thousand per minute.

They transformed their experience of measuring large forces to develop innovative software capable of calculating the exact weight of a tablet from the machine's compression force. This breakthrough positioned them as a reference in industrial control systems, their main strength today.



Nicolás Díaz Diez Arizcuren, second generation and current managing partner of HITEC, emphasizes: “We are pioneers in industrial control systems. Our motto is to measure and control!”. Today, with more than 60 employees, a highly qualified R&D department and its technology present in more than 35 countries, HITEC continues to focus on innovation.

Its TELOG platform is a modular, cloud-based ecosystem designed for the acquisition, analysis and visualization of data in real time with access from anywhere in the world. This intelligent solution allows the integration of key variables such as energy efficiency, productivity, predictive maintenance and quality control in a single interface. Thanks to high-precision sensors and cloud connectivity, TELOG collects key data from industrial processes, facilitating decision making and helping to minimize operating costs.

In addition, its flexible and scalable architecture can be adapted to different production sectors, from the pharmaceutical to the food and chemical industries. Using advanced artificial intelligence algorithms, the platform detects operating patterns, anticipates faults and suggests improvements in real time. This predictive capability not only improves efficiency, but also minimizes downtime, ensuring greater competitiveness for companies that implement this technology in their operations to be more competitive.



The global market for industrial metrology was valued at approximately US\$10.85 billion in 2023 and is projected to reach US\$18.64 billion by 2032.

Source: Fundamental Business Insights

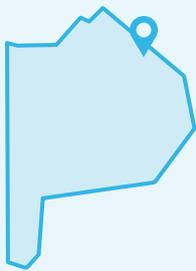


Collaboration with the National Institute of Industrial Technology (INTI) has been fundamental in this journey. Marcos Bierzychudek, in charge of the Technical Quality Management of the Institute, points out: “HITEC has been part of the SAC network since 2018 in the area of electricity and receives continuous advice in metrology. In 2021, implemented together digital traceability chains in vibration and electricity, expanding their metrological and technological capabilities”.

Nicolás Díaz Diez Arizcuren reflects on this alliance: “INTI is a link between the public and private sectors. It connects us with public policies, listens to our production, regulatory and quality needs, allowing us to have an increasing presence in the markets.

With its sights set on Europe, it seeks to take its technology to the world, convinced that TELOG is the most advanced platform for data recording and visualization, efficiency calculation and predictive maintenance for any industrial sector. "All this, based on cloud platforms and artificial intelligence algorithms," adds Díaz Diez Arizcuren.

HITEC not only measures and controls processes, it also drives innovation and transcends borders through its technological leadership.



HITEC SRL

City of Buenos Aires

Manufacture of high quality products for the last part of the work.

-Production plant: 1,500 m².



• HS CODE:

-9032.89.90000L / Instruments and apparatus for regulating or controlling automatic. Other.

-9027.90.99900G / Instruments and apparatus for physical or chemical analysis (e.g., polarimeters, refractometers, spectrometers, gas or smoke analyzers); instruments and apparatus for testing viscosity, porosity, swelling, expansion, tension, or similar tests or for calorimetric, acoustic or photometric measurements (including exposure meters); microtomes. Other.



To learn more about this alliance and the future of HITEC, we invite you to watch the following video:



<https://youtu.be/2rgEhU072qs>

CONIMED



Unique equipment for calibration and measurement of high voltage



Since its founding in 1976, CONIMED, specialized in consulting in measurement engineering, has constantly evolved, marking a path of innovation and growth. It started as a simple consulting firm and became an international benchmark in the development and manufacturing of standard instrument transformers and high-precision inductive voltage dividers.

Due to its close collaboration with the National Institute of Industrial Technology (INTI), the company has established itself as a key player in the field of electrical metrology.

CONIMED's founder, Eduardo Zaretzky, started working on the subject in 1969 while working in the Physics Department of INTI. However, the company was born in 1976, when he developed his first instrument transformer comparator in a garage.

CONIMED specializes in the design and manufacture of instruments and devices for the measurement and testing of electrical magnitudes, and is a supplier to the local and foreign market, standing out in the production of:

- **High voltage and current standard transformers:** they have a calibration certification issued by INTI, guaranteeing accuracy comparable to that of its standards. In high voltage, they allow measurements up to 230 kV of compound voltage, while current measurements reach up to 10,000 A.

- **Inductive voltage dividers:** This equipment, with no world equivalent, permits to adjust the voltage ratio between 0.0000001 and 1 with an unmatched accuracy up to 300V at 50 or 60 Hz.

- **Calibration services:** CONIMED provides a specialized service in the calibration of electrical test and measurement equipment, ensuring accuracy, reliability and compliance with national and international standards.

Eduardo Zaretsky comments with emotion that one of the highlights of the company was the development of predictive maintenance equipment for electric generators. In the 1980s, the engineer José Mazola identified a high incidence of failures in Argentine power plants. Faced with this problem, Ricardo García designed a solution that made it possible to evaluate the state of the country's hydroelectric park. Currently, this innovative equipment is exported to countries such as Saudi Arabia, Brazil, Bolivia, Kuwait, Peru, Venezuela and Uruguay.



The industrial metrology equipment market is expected to grow from \$8.5 billion in 2022 to \$12 billion in 2030.

Source: Verified Market Reports

Marcos Bierzychudek, Technical Director of Quality at INTI's Metrology and Quality Operational Management at INTI, highlights the solid relationship of more than 24 years between CONIMED and the Institute, since the company's incorporation to the SAC (Argentine Calibration Service) laboratory network.

Throughout this time, the institute's specialists have provided them with technical assistance to continuously optimize the laboratory's electrical metrology services. In addition, the organization calibrates the standard transformers and high-precision inductive dividers that CONIMED manufactures and markets, both domestically and internationally.

Since its first export in 1980 to the National Electricity Administration (ANDE) in Paraguay, CONIMED has expanded its presence in international



markets, including the United States, Spain, France, Italy, New Zealand, Panama, among others. Its main customers are metrology institutes and electric power companies.

In addition to the quality and certification of its products, CONIMED stands out for its professional track record, which is difficult to match, and a remarkable ability to adapt to the needs of its customers. This positions it as a leading company in electrical metrology, with recognized prestige internationally.

In this regard, Ricardo García, the company's technical director, explains: "The inductive voltage divider we manufacture is the only one in the world that reaches up to 300 volts at 50 or 60 Hertz. No one else has succeeded in developing equipment with this precision and stability. So much so that even competing companies have decided to purchase this equipment, recognizing its unsurpassed quality".

The company has performed predictive maintenance on almost all of Argentina's electric power, including thermal, hydroelectric and nuclear generators. Its current focus is on expanding into new global markets.

Ricardo García, reflects on the road travelled and shares his perspective: "At the beginning, we did not imagine reaching this level. What drove us was the passion for precision and continuous improvement. Today, observing our equipment in laboratories all over the world fills us with pride".



CONIMED SA

Santos Lugares, Buenos Aires

Development and manufacture of standard instrument transformers and high precision inductive voltage dividers.

- Production plant: 400 m²

• HS CODE:

- 9030.33.90 / Voltage current and resistance testing equipment without recording device -
- 9030.39.90 / The same with recording device
- 8504.21.00 / Current-measuring transformers
- 8504.31.11 / Voltage measuring transformers with liquid dielectric.
- 8504.32.21 / High current sources.



ALCOMETER LABORATORIOS



Certified Reference Material, precision calibrations and high voltage measurement



Alcometer Laboratories is a clear example of how dedication, innovation and institutional collaboration can make a difference in the field of metrology. Founded in 2004 by Martín E. Molinari, the company was born with a clear purpose: to provide the municipality of Rosario, province of Santa Fe, and other institutions a reliable measurement system for breathalyzer controls, at a time when the country lacked suppliers and technical support for such devices.

What started as a local initiative has become an international benchmark in the development and production of Certified Reference Material (CRM), a unique product that guarantees the metrological traceability and accuracy in the measurements made by ethyl and alcohol breathalyzers. The strategy used is based on the recommendations of international documents provided by the International Organization of Legal Metrology (OIML).



The National Institute of Industrial Technology (INTI) has played a key role in the development and growth of Alcometer Laboratories. Since the company joined the Argentine Calibration Service (SAC) in 2010, INTI's institutional support has been crucial to ensure the impartiality, quality and reliability of their products.

In the words of Martín Molinari, the company's president: **"INTI has been a key piece in our history. In addition to helping us establish a solid base of metrological traceability, it has allowed us to continue to grow with an institutional guarantee that gives us the assurance that we are offering the best to our customers"**.



The market for metrology services was valued at 8.7 billion in 2022 and is projected to reach \$12.5 billion by 2030.

Source: Verified Market Reports

Gladys Mastromónaco, head of the Institute's Department of Quality Development and Quality Infrastructure of the Institute, explains how the work carried out has been essential for the company: "We provided the necessary technical advice to ensure metrological traceability, supporting them in the development and production of their Certified Reference Material. This meant from the adoption of international standards such as ISO 17034 and ISO/IEC 17025 to the creation of innovative quality solutions, supervised and supported by INTI".

What sets this company apart is its ability to produce CRMs under strict international standards. **In 2023, it became the first organization in Argentina and Latin America to implement the requirements of ISO 17034:2016 to produce these materials.**

This achievement positions it as one of only two companies in the world to comply with this demanding standard in the field of legal metrology.

The company has begun exporting its products to national metrology institutes, certified and accredited metrological laboratories in Latin America, with plans to further expand its international presence. In the future, it seeks to consolidate its position as a global leader in the production of Certified Reference Material, leveraging the SAC Network and maintaining an ongoing collaboration with INTI to ensure that its products meet the highest quality standards.



For Martín E. Molinari, Alcometer's path has been a lesson in perseverance and vision: "The real challenge is not getting there but staying there. And for that, we need to surround ourselves with the best. INTI gave us the tools to grow, to think big and, above all, to understand that a job well done is not just a goal, but a continuous path towards excellence.

This approach and work philosophy, combined with the support of INTI as a reference body, have enabled Alcometer Laboratorios to position itself as a benchmark not only in Argentina, but also in Latin America. Its history is the proof that, with a joint effort, small companies can reach great achievements and leave a mark in the world.



ALCOMETER LABORATORIOS

Rosario, Santa Fe, Argentina

Commercialization of ethylometers, decibelimeters and accessories. Producers of Reference Materials for the calibration/verification of ethylometers.

- Production capacity: 16,000 bottles (8,000 Lts.).

• HS CODE:

-3822.90.00.00J / Diagnostic or laboratory reagents on any support and diagnostic reagents or laboratory, whether or not on a support, whether or not put up in kits, other than those of heading 30.06; certified reference materials. Other.







International Cooperation



The National Institute of Industrial Technology (INTI), with funding from the Inter-American Development Bank (IDB) and in collaboration with the Inter-American Metrology System (SIM), which brings together more than 30 National Metrology Institutes (NMIs) in the Americas, is working on the project “Metrology for Digital Transformation to Support Health Services in LAC and Address Measurement Challenges Associated with Pandemics Such as COVID-19.”

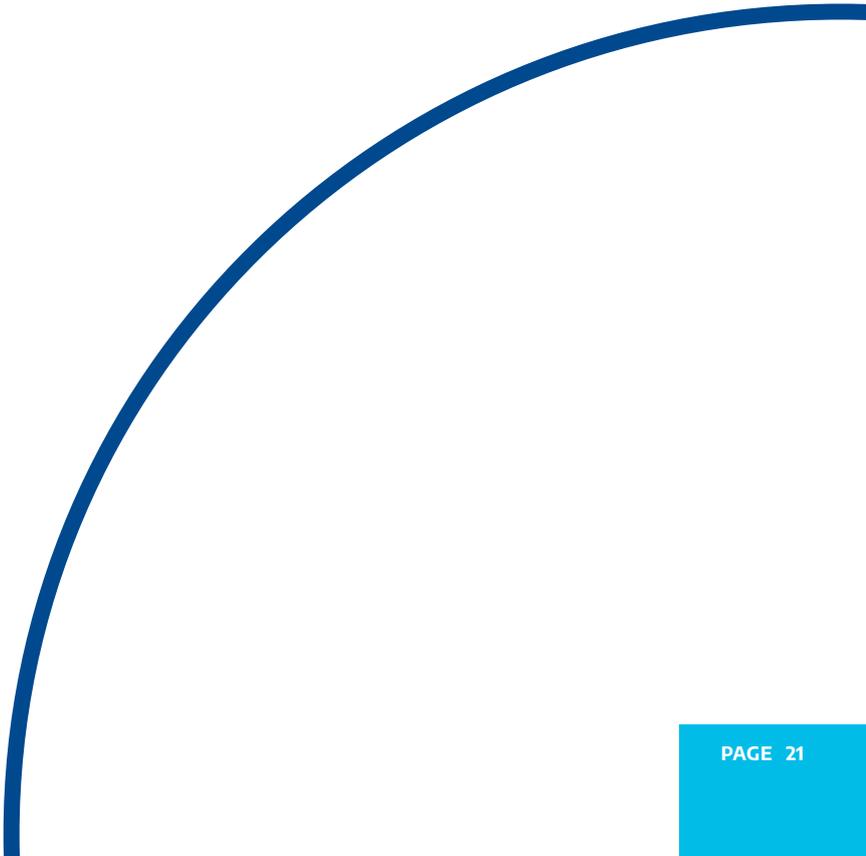
As the project executor, INTI has promoted the adoption of digital technologies and virtual

metrological controls through awareness-raising events, training activities, and regional collaborations. These initiatives seek to foster innovation, competitiveness, and productivity in NMIs, industry, and health services by improving the provision of advanced measurement services for digital technologies. In this way, the capacities of the NMIs to face the challenges of digital transformation are strengthened, increasing global knowledge of regional measurement capabilities.





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