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Understanding and Leveraging Industry Standards in Italy and Europe

White Paper

In 2003, a new industry standard for very high speed digital subscriber line (VDSL) broadband technology was adopted. 12 partners from six countries collaborated in the Integrated Network Copper Access (INCA) project to develop the technical standard, including Italy's microelectronic design center, Centro TEAM. By being involved at the seminal stages of standards development, Centro TEAM and Italy gained a first mover advantage over USA and Asia in the global market[1].

While not all Italian organizations participate in the development of standards, they can all benefit from the use of industry standards, whether national, European, or international in nature. Furthermore, as the Italian Organization for Standardization (UNI) points out, today's markets are progressively transforming from local to national, and from European to international[2]. In turn, Italian businesses aiming to remain competitive and compliant across the widest possible market will increasingly look to industry standards to guide the way.

At the same time, the wide range of industry standards currently available is constantly being added to by EU-recognised European Standards Organizations (ESOs) as well as national, European and international Standards Developing Organisations (SDOs). As a result, Italian companies are faced with the challenge of determining which industry standards will best meet market requirements, such as those established by the EU's New Approach directives.

This white paper will explore topics of how Italian businesses can best understand and manage domestic, European and international industry standards, including:

- the benefits of standards (e.g., reduced costs, risks, and time to market)
- understanding standards development levels (e.g., national, European, international)
- compliance within the Single European Market
- benefits of using Harmonized European Standards domestically and in the EU market

In addition, tools and techniques will be discussed that simplify the challenging process of standards research, identification, procurement, and management for today's Italian and European markets.

Transfer of Knowledge and the Benefits of Standards

Leveraging industry standards represents an efficient means of knowledge transfer by which Italian businesses can avoid reinventing the wheel. The benefits of such transfer of knowledge include increased work and economic productivity. For example, 13% of Britain's post-WWII labor productivity growth can be attributed to standards – or approximately £2.5 billion per year of Britain's current economy[3] – with France similarly attributing 13% of work productivity growth to standardization[4]. In Germany,

meanwhile, the yearly national economic benefit of standardization amounts to 16 billion euros[5].

Beyond increasing productivity and boosting the economy, the Italian Ministry of Foreign Affairs cites the use of industry standards as being among the factors that successfully attract foreign investment essential for the country's economic and social development[6].

When it comes to individual Italian businesses using industry standards, benefits enjoyed include:

- **Reduced Costs:** both development costs and transaction costs are minimized when following established techniques and processes outlined in European and international standards.
- **Reduced Risks:** industry standards allow businesses greater security in terms of product safety, reliability, and ultimate marketability by providing foundational 'templates' based on previously proven technologies.
- **Reduced Time to Market:** as seen above in the development of a new VDSL broadband standard, businesses can gain a head start over competitors through standards when adapting to shifting market demand and new technologies.

The application of industry standards also enables businesses to meet the ever-increasing demands of informed consumers, while expanding the potential market for a product or service through verifiable compliance across the Single European Market.

Such benefits of industry standards hold true regardless of the Standard Developing Organizations (SDOs) behind their development. As such, the proliferation of industry standards continues through various organizations at various levels.

Understanding Standards Development Levels

Individual SDOs and European Standards Organizations (ESOs) address different regional and industry-related standards issues. With a wide range of SDOs and ESOs creating industry standards, Italian businesses are faced with the challenging task of choosing between those standards when seeking market compliance in both Italy and the Single European Market.

At the highest level, three EU-recognized ESOs actively develop and implement voluntary technical standards in support of the EU's ongoing goal of harmonizing industry standards:

- **European Committee for Standardization (CEN):** founded in 1961 by the national standards bodies in the European Economic Community and EFTA countries[7].
- **European Committee for Electrotechnical Standardization (CENELEC):** founded in 1973; currently creates voluntary electrotechnical standards to service and develop the Single European Market[8].
- **European Telecommunications Standards Institute (ETSI):** officially responsible for standardization of Information and Communication Technologies (ICT) within Europe[9].

In addition, other SDOs at the international level, such as the International Organization for Standardization (ISO), work with the ESOs to facilitate the coordination and unification of industry standards[10].

At the national level, individual countries are represented by state-approved SDOs, such as the Italian Organization for Standardization (UNI) and the Italian Electrotechnical Committee (CEI)[11]. These domestic SDOs develop and advance the state's industry standards while representing the country at the international standards level through membership in organizations such as CEN and ISO.

Finally, independent SDOs, such as the Institute of Electrical and Electronics Engineers (IEEE), also contribute to the growing list of industry standards available to Italian and international businesses today.

When industry standards created at all these levels are combined, the number of documents available makes the process of selection even more challenging. To illustrate, in 2005, the Italian Organization for Standardization (UNI) alone published the following number of standards[12]:

Designation	Nature	Number
UNI	National standard with exclusive or primary significance in Italy	68
UNI EN	National Italian edition of a European standard (EN standard)	1,854
UNI EN ISO	ISO standard used to prepare an EN standard adopted as a UNI standard	528
UNI ISO	ISO standard adopted as a UNI standard	83
	Total	***2,533***

For Italian businesses aiming to maximize their number of available markets, the issue becomes how to best select from among the range of available technical standards to achieve and maintain compliance across the Single European Market.

Compliance within the European Single Market

The EU's strategy for harmonizing standards across the Single European Market involves many goals. One of those goals is to simplify the process of meeting and maintaining compliance with market regulations.

At first glance, however, the EU strategy's 'New Approach directives' can appear to make the compliance process more difficult. In contrast to typical industry standards, the EU directives take the 'new approach' of being non-technical in nature. The New Approach directives establish broad 'essential' safety requirements that all European businesses must meet to be market compliant. By not including a technical solution, the New Approach directives shift the responsibility of choosing a technical solution for compliance onto the businesses. In other words, Italian businesses are free to choose and follow whichever standard they feel will best meet the requirements of a given New Approach directive.

Although the New Approach directives are established without identifying specific industry standards that need be used to meet the requirements in question, the EU harmonization strategy does not end there. Rather, the strategy provides for one of the best, though still voluntary, solutions for meeting and maintaining compliance with its New Approach directives. This solution comes in the form of Harmonized European Standards, also known as EN standards. According to the European Commision, EN standards provide a "presumption of conformity"[13] with the directive for which the standard was developed for two reasons:

1) development of EN standards is directed by the New Approach directives themselves
2) EN standards are developed by recognized European Standards Organizations

In addition to fulfilling Single European Market requirements, EN standards also offer Italian companies a solution to domestic market compliance. Italy, as with each EU member, is required to adopt EN standards as national standards, while withdrawing any conflicting national standard[14]. As a result, EN standards simultaneously address domestic and European compliance issues through a single standard. By only using one EN standard where two or more domestic or international standards could be used, Italian businesses can also effectively decrease their research time and procurement costs.

Tools and Techniques that Simplify Using Industry Standards

While the benefits of using industry standards may be clear, along with the best practice of using EN standards, what can appear to be less clear is how individual businesses can best research, identify, procure, and manage the specific standards required. Fortunately, a range of proven tools and techniques are available to help Italian businesses meet and maintain market compliance.

A major concern for any business using industry standards is the amount of time required to identify specific standards. One technique that can reduce research time involves identifying which standards are most commonly procured by other businesses in connection with similar products or processes.

For example, the table below lists a partial collection of the most common British Standards Institution (BSI) standards procured from a third-party standards supplier. Such "Top Standards" lists also exist for other specific SDOs, as well as for specific countries and industries, such as Italy and the electronics industry.

Standard	Description Excerpt
BS EN 10204 Metallic products -Types of inspection documents	This British Standard is the official English language version of EN 10204:2004. It supersedes BS EN 10204:1991 which is withdrawn. The UK participation in its preparation was entrusted to Technical Committee ISE/5.
BS EN 1041 Information supplied by the manufacturer with medical devices	According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.
BS EN 1050 Safety of machinery - Principles for risk assessment	This standard establishes general principles for the procedure known as risk assessment by which the knowledge and experience of the design, use, incidents, accidents and harm related to machinery is brought together in order to assess the risks during all phases of the life of the machinery (see 3.11a of EN 292-1:1991).
BS EN 1473 Installation and equipment for liquefied natural gas - Design of onshore installations	The objective of this European Standard is to give functional guidelines for liquefied natural gas (LNG) installations. It recommends procedures and practices which will result in safe and environmentally acceptable design, construction and operation of LNG plants. It need not be applied retrospectively, but application is recommended when major modifications of existing installations are being considered.

Resources such as the list above not only speed the process of identifying standards, but also reduce company costs due to being free for public use, and by simplifying the subsequent procurement process. Of even greater benefit to Italian businesses, however, is the vast array of document resources and tools provided by today's third-party standards suppliers.

For example, third-party standards suppliers offer individual Italian companies the ability to create multiple login passwords to a centralized online collection of industry standards. These unique passwords enable a company's different engineers and developers to each have instant 24/7 access to the standards resources needed by the organization, regardless of where its employees are located.

Once securely logged in, powerful search and document management tools help speed the process of researching and working with standards – saved searches, automatic email alerts, personalized news feeds – while the up-to-date databases ensure the latest compliance information is accessed. Throughout the process of leveraging such third-party standards supplier solutions, the individual business benefits from copyright infringement protection through built-in digital rights management mechanisms.

How IHS Simplifies European and International Standards Compliance

IHS (http://ihs.com/), an ISO 9001:2002 registered company, is an industry-leading third-party standards supplier providing solutions for companies using European and international standards and specifications from organisations such as CEN, CENELECT, ETSI, ISO, IEC, ASTM, IEEE, ASME, UL, BSI, AFNOR, DIN, and others. Whether leasing access to a set of documents through a subscription, or purchasing individual retail documents, IHS has the solutions your company needs to ensure compliance to European and international standards.

[1] "Setting new standards for broadband Internet." EUREKA press release. 4 May 2005.

[2] "Standardization today." UNI. 29 Dec. 2006. <http://www.uni.com/uni/controller/en/standardization/standardization_today.htm>.

[3] British Standards Institution. 27 Oct. 2006. <http://www.raisingstandards.com/html/index.htm>.

[4] "The French Standardization Strategy: 2006 – 2010". AFNOR, 2005.

[5] "How does standardization benefit the economy?" DIN. 14 Dec. 2006 <http://www.normung.din.de/index.php?lang=en&na_id=normung>.

[6] "Investing in Italy." Italian Ministry of Foreign Affairs. 29 Dec. 2006 <http://www.esteri.it/eng/7_44_107.asp>.

[7] "About Us." CEN. 20 Aug. 2004. 6 Dec. 2006. <http://www.cenorm.be/cenorm/aboutus/index.asp>.

[8] CENELEC. 6 Dec. 2006. <http://www.cenelec.org/Cenelec/About+CENELEC/default.htm>.

[9] "Who is ETSI?" ETSI. 13 Nov. 2006. 6 Dec. 2006. <http://www.etsi.org/about_etsi/5_minutes/home.htm>.

[10] "Overview of the ISO System." ISO. 12 Sept. 2006. 4 Dec. 2006. <http://www.iso.org/iso/en/aboutiso/introduction/index.html>.

[11] "UNI and its role." UNI. 29 Dec. 2006. <http://www.uni.com/uni/controller/en/about_us/its_role.htm>.

[12] "UNI in numbers." UNI. 29 Dec. 2006. <http://www.uni.com/uni/controller/en/about_us/uni_in_numbers.htm>.

[13] "Standardisation: Why are European standards important for the European Commission?" European Commission. 30 Nov. 2004. 6 Dec. 2006. <http://ec.europa.eu/enterprise/standards_policy/european/flyer/index.htm>.

[14] "New Approach." European Commission. 15 Sep. 2006. 6 Dec. 2006. <http://ec.europa.eu/enterprise/newapproach/index_en.htm>.