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TENARIS: CREATING A GLOBAL LEADER FROM AN EMERGING MARKET

Globalization forces companies to enter the game completely, not only at a technological level but also at organizational and management levels.
—Roberto Rocca, former Tenaris chairman

In December 2003, Paolo Rocca, chairman and CEO of Tenaris S.A., could look back on a momentous first year for the company. Much had been accomplished since Tenaris, a leading global supplier of seamless steel pipe and related services, had been formed in December 2002 via an exchange of the shares and American Depository Receipts of three separately listed pipe companies—Siderca in Argentina, Tamsa in Mexico, and Dalmine in Italy—for shares in the new company (Exhibit 1). Although Tenaris was formally incorporated in Luxembourg, its executives were based in the different parts of the world where the company had its operations. The new company had eight manufacturing facilities variously located in South and North America, Europe and Asia and a global network of distribution and sales centers present in over 20 countries (Exhibit 2). It enjoyed annual sales of $3.1 billion to the oil and gas, energy and mechanical industries (Exhibits 3 & 4), a market-leading 19 percent share globally in seamless OCTG pipes (OCTG referred to "Oil Country Tubular Goods" sold to the oil and gas industry), with particularly strong market shares in a number of national OCTG markets where it had local manufacturing, including Mexico and Argentina. Despite the pride he rightly took in all of this, Rocca was focused on the challenges ahead as Tenaris sought to transform itself strategically and organizationally.

Faced with a mature seamless steel pipe market, Rocca looked to further geographic expansion and a move into service provision to maintain growth and consolidate the company's market position. Both of these would require new skills and new ways of managing, especially on the human resources side. Building upon the legal unification to transform Tenaris's 14,500 employees from eight heritage companies into one centrally aligned, unified operation—"a global business with solid local roots"—was also proving to be a major managerial challenge as

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Charles Catalano prepared this case under the supervision of Professor John Roberts as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

the company sought to realize the potential advantages of a sophisticated new organizational design. Further, the new organization needed to generate significant cost savings from the consolidation. That the share price had doubled in the year following the exchange was heartening, but it meant market expectations were high, and this added to pressure on management. On top of these issues, the recent death of Rocca's father Roberto, former chairman of the company, had placed new professional responsibilities on Rocca, not to mention significant emotional strain.

Rocca had always expected a lot of himself and his managers. What should be expected in the face of these changes? How they would need to manage differently in a unified global organization was a vital question for Rocca and his top managers.

Industry Overview

Steel pipe could be made either by shaping and welding flat steel sheets (welded pipe) or by rolling and drawing out steel bars or ingots (seamless pipes). Tenaris viewed the seamless steel pipe industry in terms of two tiers. The first, high-end tier consisted of Tenaris and a few long-standing pipe producers based primarily in Japan and Europe that focused on producing premium products. These pipe products were engineered to precise specifications using special steel grades and alloys with chemical compositions to withstand harsh and demanding conditions, typically for the oil and gas industry but also for use in critical mechanical and thermal applications. The second tier, or low-end of the industry, consisted of many companies producing more commoditized pipe products of standard carbon and low-alloy steel, for use in a wide variety of industrial and less demanding oil and gas applications. Participants in the low-end tier were largely based in China, the U.S., the Commonwealth of Independent States, and Eastern Europe. Welded pipe, often used as line pipe to transport oil, gas, and other fluids for the major oil and gas companies, generally had lower performance capabilities than seamless for the same wall thickness, although for some applications it could compete with the lower tier.

Oil and gas producers were the largest consumers of seamless pipe products worldwide.[1] These products were used in pipelines and refining, but most importantly in drilling wells. Oil and gas producers commonly hired drilling companies to provide expertise and equipment, including the rigs. Drilling companies in turn worked with oilfield service and equipment companies, which provided the additional tools and services required to expedite well drilling. Oilfield service and equipment companies did not sell pipe products, however. Steel companies supplied the pipe, generally through distributors who maintained the closest relationship with end users and traditionally took responsibility for pipe inventory management. Tenaris, in contrast, had its own worldwide service and distribution system for dealing directly with end users.

Normal drilling operations involved an assembly of drill pipe and collars (the "drill string") that extended from the rig floor to the bottom of the hole. Drilling rigs typically had an inventory of 10,000 to 25,000 feet of drill pipe associated with them, depending on their size and service. After drilling, a large diameter steel pipe (casing) was run into the raw hole to keep it from caving in and, once cemented, the casing kept fluids in one level formation from migrating to

[1] Much of this section is drawn from Oil & Gas: Equipment & Services, Standard & Poor's Industry Survey, July 24, 2003.

another. Finally, steel tubing was installed through which the oil or gas flowed to the surface. Together, drill pipe, casing, and tubing typically represented the second largest expense of drilling and equipping a well, trailing only actual payments to contract drillers.

Demand from this segment was driven by the number of oil and natural gas wells being drilled, completed, and reworked, and by the depth and drilling conditions of these wells. Transport and processing of oil and gas in turn drove demand for line pipe in both the high and low end. Major and supermajor oil companies and the national oil companies dominated oil-drilling activities due to the large size of the investments required. Drilling activity tended to vary with oil and gas prices.

Origins: The Heritage of Tenaris

Agostino Rocca, Paolo's grandfather, was a key player in the Italian steel industry between the two world wars. He served as managing director of the Dalmine seamless steel pipe plant and then in 1945, along with his son Roberto, founded the Techint engineering company in Milan. After moving to Argentina in 1948, Agostino founded the Siderca seamless steel pipe operation, whose plant design was based on the Dalmine model. Siderca helped establish Techint, which remained under the control of the Rocca family, as one of the most important industrial and engineering firms of all South America.

Siderca, located in Campana near Buenos Aires, initiated seamless pipe production in Argentina in 1954 and, behind trade barriers, soon established a strong presence in the domestic market. In 1986, Siderca acquired the Argentine welded pipe maker Siat, further strengthening its position in the Argentine steel pipe market.

About this time, Techint, under Roberto Rocca's leadership, decided to invest heavily in a major expansion of the Siderca mill in order to enter the export market. Argentina's ample supply of people qualified to produce sophisticated steel products, the increased global presence of its competitors and customers, the lack of domestic growth prospects, and the gradual opening of the local market to imports were all contributing factors to the decision. The risks to the expansion were considerable, given the instability in the country, which was still emerging from a dictatorship and suffering from hyperinflation and a very poor credit environment. Nevertheless, Roberto Rocca proclaimed that the goal was to build "an island of excellence in Argentina." While tripling Siderca's production capacity, the company recruited a cadre of young engineers and managers who would rise to leadership positions in the coming years.

The expansion into the export market was supplemented through a series of strategic investments in the 1990s in seamless pipe operations in other countries. Techint's acquisition strategy was to take control with a limited financial investment, orchestrated usually through Siderca. Techint then upgraded facilities while gradually increasing ownership. (See Exhibit 5 for a list of historical milestones.)

Along with its expansion and acquisition strategy, Techint also began to pursue a strategy of selling directly to its customers, rather than through traditional distributor channels. For instance, Siderca initially targeted exports to China, which was relatively conducive to direct

selling since the main international distributors lacked an established local distribution network. Over time, this commercial network expanded to centers across the globe and came to be known as the Techint Commercial Network.

Techint also invested heavily to increase product quality, which was recognized as another critical factor in global expansion. As part of this effort, Techint established specialized research and testing facilities, the first in Argentina. Techint's legacy of engineering and industrial resourcefulness and excellence would remain a core source of pride for the organization.

Control of Tamsa, the sole producer of seamless pipe in Mexico, was acquired in 1993. Techint's construction arm had actually built the Tamsa plant, using the Dalmine-Siderca model. At the time of the acquisition, Tamsa was under severe financial stress since Pemex, Mexico's state-run oil company and Tamsa's largest customer, had stopped buying pipes due to surplus inventory. The Mexican economy was also in crisis at that time.

In 1996, Techint acquired control of Dalmine when the Italian government privatized it. Subsequently, Techint's pipe manufacturing activities expanded to Venezuela, Brazil, Japan, and Canada. Tavsa, the sole producer of seamless steel pipes in Venezuela, was acquired in 1998, followed by Confab, the leading producer of welded steel pipes in Brazil. NKKTubes was formed as a joint venture with Japanese steel-maker NKK Corporation in 2000, with Techint-Siderca supplying capital and management and NKK contributing its seamless facilities. NKK had been facing financial difficulties in its seamless tubes business but was renowned for its technical excellence and product quality. Carlos San Martin, who conducted the NKKTubes negotiations for Tenaris and served as its managing director until 2002, noted the significance of this step in Tenaris's expansion: "I believe in time this experience will be recognized as a true turning point for our company in the direction of multicultural relations, since with Tamsa and Dalmine we incorporated people from similar cultures." In Canada, also in 2000, Techint reactivated the seamless pipe mill owned by Algoma Steel under a lease with right to purchase arrangement. (See Exhibit 6 for a description of Tenaris's eight production mills.)

Pre-Unification: The DST Alliance

Following the acquisition of controlling interests[2] in Tamsa and Dalmine, the DST (Dalmine-Siderca-Tamsa) Alliance was established to coordinate export sales globally and the allocation of production among the mills.

The alliance partners remained independent companies with their own publicly traded shares and control over sales in their domestic markets. Through a series of contractual agreements, Rocca and his team managed plant loads on a global basis while respecting the interests of each company's shareholders (for instance, orders were allocated to keep each mill running on a fairly equal basis, even if that meant the lowest cost producer did not run at full capacity). Alex Lammertyn, who worked on Rocca's staff at the time, recalled, "We had to keep a balance and make every decision thinking about what the impact would be on the minority shareholders. So

[2] Two years prior to the formation of Tenaris, Techint held 72 percent of Siderca, with the balance of shares traded on the Buenos Aires exchange. Through Siderca, Techint held minority interests in Tamsa and Dalmine, with the balances held by the public. However, as the largest shareholder, Techint exercised effective control through their boards.

we were not able to optimize the whole system as a production base because we were running some areas that were not as efficient as other plants."

The Techint Commercial Network, the international group of service and sales centers developed by Techint, served as the front end for customers doing business with DST. "We were already coordinating efforts," recalled Lammertyn. "Commercial would make sure that the operations took place, that the orders got done, but they were measured only by getting the order. They took care of the customer's needs but not in a consistent way and without measuring the implications and costs that meeting those needs would take." Little attention was paid to forecasting since the emphasis was on being responsive to immediate customer needs.

Since DST was not a legal entity in itself, order contracts from customers were written with the individual alliance companies. Commercial Director German Cura recalled:

> It was a little strange, at the time of signing a contract, to explain to our customers that this was an alliance formed by eight different legal entities, and that the contract was going to be signed by one, and that the other seven were going to be signing through this one. The market confusion was high.

In mid-2000, Techint centralized procurement for its steel pipe and other steel businesses through the formation of a specialized subsidiary called Exiros. At this time, Rocca also emphasized the ability of IT to facilitate integration both within the company and with customers, claiming "IT is the business." Research began on a single architecture for systems, databases and critical processes that would consolidate IT at the global level.

Still, the managing directors of the individual alliance companies acted essentially as CEOs with responsibility for all aspects of their individual businesses. Each company maintained its own separate functional departments responsible to its managing director. For instance, there were separate IT organizations at Siderca, Tamsa, and Dalmine, focusing primary attention on local needs and requests. Techint provided only some central project management support. As well, quality assurance and R&D existed as separate functional groups at each of the plants, although Techint sought to introduce innovations uniformly across the sites.

The fact that both the Siderca and Tamsa plants had been built by Techint on the Dalmine technical model helped in establishing multinational cooperation. A common engineering language across the different cultures also had a unifying effect.

The parent organization Techint and its primary operating company Siderca had a strong influence on the alliance. "These common roots have made it easier to work together," remarked Alberto Valsecchi, a senior executive from Siderca who was managing director of Dalmine during the alliance period. Siderca had also installed two of its veteran executives, Ernesto "Tito" Cossavella and Carlos Condorelli, to manage Tamsa following the takeover.

The alliance shared the values of tenacity, determination, and concentration that characterized Techint and Siderca's history of building plants in difficult environments and investing and expanding to open new markets. These norms also became manifest in the face of customer

prejudices against the quality of Argentine products. Carlos San Martin, who served as marketing director at DST, described the early situation when Siderca first started exporting:

> Siderca's products at that time were very inferior in quality and variety from what we now have at Tenaris. I remember our first trips around the world, trying to get our products qualified by the international companies, especially one day when one of them literally threw our catalogues at us. I also remember going to an oilfield in China where people told us, 'These are real tubes', pointing at Japanese products.

However, San Martin and his team refused to be defeated by the setbacks.

The Techint and Siderca culture was very informal. "We didn't use a precise organizational chart for inside purposes. We had one primarily for the outside. But nobody inside followed it strictly because the organizational culture encouraged informal interaction," recalled HR Director Marco Radnic. In addition, the pre-integration culture involved a great deal of access—it was not unusual for managers to go up or down levels in the hierarchy to communicate on an issue, often without informing people in between. In particular, it was commonly understood that "Paolo Rocca can talk to everybody, and everybody can talk to him," as one executive noted. In general, personal relations served as the means of getting things done.

Techint and Siderca also had a distinctive approach toward managing people. From the beginning, the practice was to hire bright individuals right out of university and give them a lot of responsibility early on. Even more important was the understanding that just one or two words should be sufficient instruction for any task. A legend from the Spanish-American War widely known by Techint managers epitomized the behavior. The story concerned a messenger sent on a daunting mission into Cuba with only the instructions, "Take a message to Garcia."[3] Marco Radnic explained: "The essence of our culture was you needed to understand quickly what was required of you and then go ahead and just do it without asking too many questions." The approach worked very well for many years in Argentina and reasonably well in Mexico and Italy, according to Radnic.

The emphasis on initiative also involved risk-taking. Radnic recalled, "I think there was a broad theme for risk-taking, early on in the career. Of course, a nod in the right direction from top management or senior management was always necessary, but it was also enough. Quite a bit of risk-taking was acceptable. I'm making an effort to speak in the past tense because I think that this is changing."

Recruiting benefited from the strong standing of Techint within South American industry, which allowed the firm to attract the most qualified Argentine graduates. New employees joined, expecting to spend their entire careers at Techint. Radnic explained, "Part of the culture at Techint was a sense that if you did well, if you were really committed and if you were good at what you were doing, you would basically stay with Techint your whole life." A performance

[3] In 1899, Elbert Hubbard penned the classic essay, "A Message to Garcia" in which a messenger named Rowan received instructions from U.S. President McKinley during the Spanish-American War to deliver a note behind the lines to insurgent leader Garcia. Despite the fact that Garcia's whereabouts were completely unknown, Rowan set off without question or delay into the Cuban jungle and successfully completed the mission.

evaluation system was used but it did not require rigorous ranking of employees against their peers. As the recruiting process evolved, recruits came from a wider range of universities and participated early in international job rotations. Future leaders were developed almost exclusively from within, and it was generally considered very difficult to be successful if you joined the organization from the outside at a managerial level. In fact, a myth developed internally that no real career path existed for experienced professionals from outside the organization.

Personal familiarity had been the chief means for past hiring and promotion decisions, and an effective assessment system did not exist to help people select new hires based on standard criteria rather than personal preference.

The organization's heritage as a family company also entailed unusual personal allegiance to the company leader. From his appointment as CEO of Siderca in 1990, Rocca took pride in remaining accessible and responsive to employees, regardless of their position in the company. One example involved a Tamsa worker laid off as a result of the reorganization, who e-mailed Rocca directly to express his regrets. Rocca wrote back and, while unable to reinstate the worker, further explained the rationale for the reorganization. The former employee gratefully responded with a thank you, expressing his understanding.

Each of the principal companies in the DST alliance—Siderca, Tamsa, Dalmine—came from a Latin culture but still carried a strong identity that its managers and employees wished to preserve, symbolized by the continued use of differently colored seals and caps on each plant's pipes. Dalmine in particular was wary of Techint control, given its unique tradition and its distinguished reputation—since 1906—as one of the pioneer establishments to produce seamless pipe (following the invention of the process in Germany by Mannesmann, which currently competed in the industry as part of Vallourec & Mannesmann Tubes).

Managers played a significant role in recognizing the distinct needs of the alliance companies. Alberto Valsecchi was especially concerned with minimizing the perception that Siderca was out to "colonize" Dalmine. Employees feared that Dalmine would be reduced to a mere "plant" or "production unit" within a larger system dictated by headquarters. Valsecchi prevailed through his proactive representation of Dalmine within the alliance, drawing upon knowledge and relationships developed in his previous experience as a senior executive at Siderca. Tamsa, on the other hand, had been relatively open to Techint's control because of the financial crisis it had faced at the time of the acquisition.

Unification: The Creation of Tenaris

Rocca eventually realized that the alliance approach was inadequate and that further growth could only be achieved by truly globalizing—unifying into a single global organization in order to achieve a set of strategic objectives which Rocca believed were vital for long-term competitiveness:

§ Support development of a global service strategy. Rocca considered the move towards service delivery as the future of the business, differentiating Tenaris from other pipe

producers and establishing the basis for more intimate long-term relationships with customers. Tenaris sought to realize the capabilities that would set it apart from its traditional steel pipe competitors, while maintaining the added value from control of the production process that pure service companies lacked.

§ Remove the constraints and inefficiencies that resulted from conflict of shareholder interests, particularly in production allocations. Realigning the plants under a single organization would enable them to specialize, thereby increasing their collective competitiveness in the marketplace. Managing the company as a single entity, organized in Business Units, Production Units, and Central Functional Departments, would create a united company in the view of the market, shareholders, and employees.

§ Create a single brand. Critical to the service strategy and of fundamental importance to the integration was development of a single, global brand. In Rocca's view, one brand was essential for capturing more mindshare in the global marketplace and asserting industry leadership. Rocca also saw the brand as an opportunity to market other important values that existed across the organization. This included a dedication to helping local communities that had long been held by the Rocca family and Techint as well as an awareness of environmental issues. The brand would convey the concept of a global company with strong local roots and a proud tradition of multiculturalism—signified graphically by the multi-colored bars to the left of the Tenaris brand logo (Exhibit 7). The new Tenaris brand was formally launched in May 2001.

§ Foster transparency and reduce cost of capital. Unification would result in Tenaris's listing on the national stock exchanges for each of the principal companies (Siderca, Tamsa, Dalmine) plus the NYSE. The legal and financial reorganization would help to establish unprecedented visibility and transparency across the business. This would, Rocca believed, generate credibility with investors and global customers with whom Tenaris desired to increase its business. "We are gradually shifting our investor base from Latin America to global, and to investors with interests beyond the steel industry specifically," noted vice president for finance and board member Guillermo Vogel. The single stock would make it easier to raise capital, and do so more cheaply. It also offered tax-planning advantages. And with a single stock, Tenaris gained a more valuable currency for use in its continued acquisition strategy.

§ Create a broader, more aligned base of support for new product development. An emphasis on new product development was closely tied to Rocca's service strategy. Greater intimacy with customers provided the strategic insight required for new product development, while better products helped support distinctive service.

§ Realize cost-saving synergies. Rocca anticipated savings that would come from reducing redundancies across the organizations. The simultaneous expansion of the business through new service offerings made estimating the timing of these cost savings more difficult. (See Exhibit 8 for SG&A expenses as a percent of sales.)

All of these objectives, Rocca realized, were easier said than done. "As the Americans say, 'You talk the talk, or you walk the walk.'"

Competition and Strategy

Tenaris's principal first-tier, high-end competitors in premium seamless pipe were Sumitomo Metal Industries and Kawasaki Steel of Japan and Vallourec & Mannesmann in Europe. The two Japanese firms held strong positions in Far East and Middle East markets. They were renowned for the high quality of their products and for their high-alloy grade pipes. Kawasaki Steel had recently partnered with NKK to form JFE, which operated the former Kawasaki Steel's seamless pipe business in competition with NKKTubes, the NKK-Tenaris joint venture. Recent consolidation in the Japanese steel industry was seen as partly facilitated by the formation of NKKTubes and included the demise of Nippon Steel's export business, shut down in 2001. Vallourec & Mannesmann Tubes (V&M) was founded in 1997 as a joint venture between Vallourec of France (55 percent of shares) and Germany's Mannesmannrohren-Werke (45 percent). V&M held significant share in the international market for seamless pipes, primarily in Europe, the United States, and the Middle East, and maintained key manufacturing sites in France, Germany, Brazil and the U.S. It was a strong competitor in the international OCTG market, particularly for high-value premium joint products because of its focus on product innovation. Like Tenaris, V&M saw the opportunity in global expansion and had recently acquired its U.S. seamless tubes operation in May 2002 from North Star Steel, a leading producer of OCTGs for the U.S. domestic market.

In the domestic markets of its operating subsidiaries in Argentina, Venezuela, Mexico and Canada, Tenaris competed primarily against importers of seamless steel pipe products. In Italy and Japan, competition included domestic and regional producers as well. For the most part, Tenaris subsidiaries had established strong ties with major local consumers of steel pipe products, notably state-run oil producers, reinforced by Just-In-Time (JIT) arrangements which allowed Tenaris to provide these customers with comprehensive pipe management services on a continuous basis. In 1994, Tenaris pioneered JIT with Pemex, Mexico's state-run oil producer. These agreements allowed customers to operate without pipe inventories and stipulated delivery of pipe at short notice, sometimes in as little as 72 hours. Under JIT and stocking supply arrangements, Tenaris was kept informed of its customers' drilling programs and pipe requirements. In addition, Tenaris was permitted to bring its engineers to the customers' drilling locations in order to maintain adequate warehouse inventories. V&M had recently begun using the JIT approach with Petrobras in Brazil, but the technique was still largely unique to Tenaris.

In the high end, Tenaris increasingly differentiated itself by adding pipe-associated services, such as those pioneered in the domestic markets as described above. Commercial Director German Cura explained: "We're not only, like Sumitomo and V&M, delivering our pipes to port of destination, but also taking the pipe from the port to the pipe management base, running all of the handling and inventory aspects, everything that typically was done by the oil companies… and in some cases, we're not only delivering the pipe at the well site, but we are running the pipe, that is installing the pipe in the well." Supplying services enabled Tenaris to strengthen relationships with customers through long-term agreements, create more value in the supply chain and capture some of the added value for itself. Cura added, "We tell our customers that we

like to think of ourselves as a company that is integrating the different aspects of the supply chain from the steel shop, where the steel is melted, all the way down to the installation of the tubular column at the well. Now that is something that the others are not yet doing."

Tenaris's move into the downstream service area also increased the number and type of potential competitors. Cura noted, "We now tend to compare ourselves a lot more to the oilfield service companies like Schlumberger, Halliburton, Weatherford, BJ Services, Baker Hughes, so on and so forth. Of course we play in a different oilfield services segment and supply different needs. But ultimately… we share the customer base." For the time being, Tenaris has taken a cooperative approach with oil service companies. Tenaris Vice President for Finance Guillermo Vogel remarked, "One major challenge is that we don´t want to be perceived by some of our major customers, the oil service companies, as competing with them and thus affecting our long-term relationship with them."

Ultimately, Tenaris aimed to present itself as more than just an oil services company. "Really the orientation is much broader than that, which means being a service company also to the automobile industry, the mechanical industry, and to the different sectors that we serve," noted Vogel.

State-of-the-art technology, traditionally the focus of European and Japanese competitors, was an increasingly important factor within the seamless pipe market, given evolving trends in the oil industry. Industry analysts observed that major oil companies were entering more international deepwater projects, spurred by favorable regulatory rulings and new technology. While Tenaris had been slower in developing the product side than its main competitors, investments in R&D had risen. According to Cura, "We are catching up, I think, on the product gap a lot faster than they are catching up on the service development."

In the low-end market, Tenaris's competitors were primarily from Eastern Europe, the Commonwealth of Independent States, and China. U.S. domestic producers were also primarily low-end competitors. They only periodically entered the international market and did not offer supply services, which were the domain of distribution companies. Because of anti-dumping duties, the U.S. market had been virtually closed to Tenaris and most other leading producers since 1995. Tenaris competed against the very aggressive pricing in the low end by offering a complete product range (every pipe from two inches outside diameter all the way to 24 inches). Cura explained, "Luckily many producers don't have the entire range, and consequently this creates some operational hassles that we're capable of solving and they're not. And consequently the market is to some extent ready to accept a price to solve that."

Overall, Rocca saw Tenaris's position as a newcomer from an emerging market as a potential competitive advantage, particularly in regard to opportunities in Russia, Eastern Europe and China, where growth of sales and of local production were significantly outpacing the rest of the world. Rocca considered Tenaris well positioned to bring firms in these emerging markets up to modern standards through the creation of local production facilities that utilized low-cost labor and large capacity. As Rocca described the thinking behind this vision, "We are a product of the new world, we are new people, newcomers, and we push to introduce changes…. We want to

help emerging countries enter the new global marketplace, so if Caterpillar is moving into China, we should be anticipating this and helping them as partners."

Post Exchange Integration

In October 2002, a convention of 75 top managers from across the alliance companies took place in Veracruz, Mexico, to launch the reorganization project that would redesign the structure and processes for the soon-to-be unified company. Some 100 Tenaris managers, with support from McKinsey & Company, were involved in the redesign effort.

In May 2003, another convention involving 180 managers was held in Veracruz to review progress on the transformation and examine the alignment determined by the reorganization project. At that time, Rocca issued a memo outlining details of the reorganization and reasserting the corporate objectives for the unification. Rocca referred to the new management model as the "Tenaris Way" (Exhibit 9) and emphasized the fundamental importance of human resources, knowledge management and information technology to the strength of the company: "This is the skeleton, the bones on which the company can build sustainable growth over a long period of time."

Organizational Architecture
Tenaris's primary structural components included the following:

§ The Management Committee. Known as the JET (Junta Ejecutiva Tenaris) and led by Rocca, this was the principal executive body overseeing the management of the company. Its members included the main area managers and central functional directors, such as those for Supply Chain Management (SCM) and Commercial.

§ Global business units. Four global business units, each serving a different set of customers, originated during the DST Alliance and were carried over to the new model. Reporting to the commercial director, the global BU managers were responsible for developing the product and service mix for their segments in conjunction with the central marketing group, which also reported to the commercial director. (See Exhibit 10 for a description of Tenaris's four global business units.)

§ Local Business Units. In the areas where Tenaris had production activities, local business units, under the supervision of the local area manager, handled commercial dealings with local customers (such as those with Pemex in Mexico). The local BUs adapted the global product and service offerings to their local market conditions.

§ Production Units. Each of the eight pipe production facilities was formally identified as a production unit. The area managers in the eight countries and regions in which the plants were located oversaw the production units.

§ Area Managers. In addition to the area managers overseeing the eight countries where production occurred, general managers in the commercial network were designated area managers for other regions. Area managers were responsible for coordination with

centralized functional services, such as finance and administration. In addition, area managers handled all institutional and non-market relationships in the region, including community and government interactions. The area manager role evolved out of the subsidiary managing director and commercial network general manager positions and represented one of the most significant changes associated with the integration of Tenaris. While responsibility for local affairs widened in the new role, management responsibilities directly relating to the previously autonomous subsidiaries Siderca, Tamsa, and Dalmine were reduced.

§ Supply Chain Management (SCM). The reorganization created a new centralized group to oversee the coordination and delivery of products and services to customers, including specialized value-added services. On a global basis, SCM also coordinated the actual allocation of orders across the production units.

§ Tenaris Global Services. The direct sales and customer service centers and offices that were originally developed as the Techint Commercial Network were renamed and incorporated into Tenaris. In most cases, they provided the primary contact with customers.

§ Profit centers. Tenaris was organized financially into two main profit centers: Seamless Pipes and Welded Pipes. Other smaller profit centers, such as Dalmine Energie, a supplier of electricity and natural gas in Italy, were established in areas of the business that were subsidiary to the main business, in either marketing or production activities.

§ Exiros. Tenaris created a separate subsidiary for the procurement of raw materials, goods and services. Exiros offered its service to Tenaris, the rest of Techint Steel Area and third parties, involving about 300 employees, reduced from 400 prior to the unification. Exiros purchased approximately $2.5 billion per year, 50 percent for Tenaris.

§ Centralized functional departments. Previously existing for each subsidiary, these departments were centralized in the new organization. They included Administration, Finance, IT, Human Resources (for white collar employees), Communications, R&D, Quality, Industrial Coordination, Legal, Investor Relations, and Internal Audit. The departments were, to some degree, dispersed geographically to prevent an overly high concentration of influence within any region.

The total workforce in the reorganized Tenaris consisted of 14,500 employees worldwide, including approximately 4,500 white-collar and 10,000 blue-collar workers. Of the white-collar workers, about half were involved in global management and the other half with local production, including maintenance, engineering, and procurement. (See Exhibit 11 for an overview of how Tenaris managers were deployed across the organization.)

Routines and Processes

Many of the past informal ways of doing things were being pushed aside by new rules and processes required by the integration. "To get the qualification of the top supplier to Shell in 10 countries you should be able to repeat the same procedure everywhere," Rocca pointed out.

Project teams coming out of the first Veracruz management conference began developing explicit global processes and procedures for each of the functional areas. Work continued in establishing these in late 2003.

Efforts to leverage information technology were considered vital to global process development and were ongoing. For instance, IT had implemented a single, global SAP system for finance and administration, but the global SAP system for HR was only partially implemented in late 2003. New systems for sales, supply chain, and procurement were also in development.

Common IT also supported a more systematic approach to knowledge management, but personal interactions were still seen as crucial. However, the heavy past reliance on personal relationships in some ways complicated the establishment of more formal processes and decision-making. Vogel gave a hypothetical example of the predicament facing a manager in the field who was part of the newly centralized quality assurance department:

> This person used to know the managing director of his company. He knew exactly which decisions he could make and would be endorsed by the managing director, and which would not. He knew pretty well what the limits were. Suddenly, he has a new boss who is not in the office next door but happens to be 10,000 km away, whom he doesn't know as well and with whom he has not had the opportunity to interact and get to know.

Vogel also sensed that the new systems needed to improve the flow of information up as well as down the hierarchy and also horizontally. "We have to make sure that within this new centralized structure we don't lose the ability to exploit the knowledge of our people across different units." To that end, a program was underway to establish a corporate university, which could act as a forum for a more comprehensive knowledge management system.

The standardization of routines and processes was also complicated by an aggressive push for simultaneous cost savings. Director of Supply Chain Alex Lammertyn noted the tradeoffs: "That's another challenge. What do you do first? You try to build a company, try to put everything together and *then* rationalize once you have the system… or do you have to do the synergies first to show results and then live with it? That's one of the biggest challenges that we have."

People

According to Rocca, never before had attention to people been more important. He explained: "We want to create a true competitive advantage in the way we manage our human resources… Our top managers need to understand the importance of HR management and change our traditional attitude, dedicating more time and effort to it." Rocca tied the emphasis to the support of Tenaris strategy. "An important issue is the relevance of HR in the delivery of services, a critical aspect of our strategy: competitive advantages in services derive mainly from the quality and motivation of our human resources and from efficient knowledge management."

New approaches to functional activities, such as the global standardization of IT, were also placing new demands on people. According to IT Director Giancarlo Miglio, the organizational challenges in implementing the new IT systems called for IT people who saw themselves as

customer handlers as well as business people with a better understanding of technology. "Many people are strong in technology or business but could use more training with managing people and situations in the midst of change."

Growth into new product and service areas and geographic markets also required Tenaris to bring new skills and experiences into the company. There was not time to develop the expertise needed through trial and error and internal learning. Cura noted the challenge in regard to the delivery of new services: "We are about to launch a global initiative to organize this activity of installing wells, which we now do in Nigeria, Venezuela, in China, in the North Sea, but not everywhere.… And we're talking about recruiting 250 people to work globally on installation services, every possible nationality, surely with unequal skills and a need for training. A recruiting process, compensation… totally different from the ones we've seen...." Lammertyn had responded to these needs by looking outside the company for people at mid-career with the required know-how. This break from tradition was occurring in other parts of the organization as well, painfully in some instances.

New recruitment activities proved difficult for Tenaris managers because the process was different from that used with inexperienced candidates right out of university. It was also difficult to attract mid-career people from outside Argentina or Latin America, as such candidates often had little interest in moving to Latin America or working in the steel industry. In addition, there were few examples of managers with non-Argentine backgrounds who had risen to top leadership positions. One Tenaris executive related the story of an Argentine manager who expressed reluctance to have a particular person succeed him in his position because the candidate was from another culture. At Dalmine, some managers worried about taking expatriate assignments since there did not appear to be any higher-level leadership opportunities in Italy to which they could eventually return. Rocca understood that more important positions were needed in Europe and throughout the geographic reach of the organization, to attract top talent in those regions.

Rocca believed that developing not one but several geographic headquarters across Tenaris was important. He called upon all Tenaris managers to help support this vision and participate in international job rotations, either themselves or through the involvement of their subordinates. This was not proving easy to do, largely because of the additional costs and practical constraints associated with having managers and teams located across different regions and time zones. For example, several key HR staff were located in Italy, apart from the central HR leadership in Argentina, which sometimes made scheduling a meeting of all the HR managers very difficult. "It is a huge challenge to rotate managers into new country regions," Rocca acknowledged.

Rocca also believed that Tenaris managers could help attract new leaders by emphasizing the emotional appeal of the Tenaris mission, including the prospect of competing on a global scale, the emphasis on innovation (Rocca noted that the R&D budget exceeded that of any other single project), and the opportunity to make a difference in developing the countries in which they operated.

Employee development was a critical part of the human resource focus, and performance evaluation gained increased attention in the effort to get managers to spend more time on people management and to identify high and low performers more consistently. A new forced ranking

system was introduced to measure Tenaris managers against a global group of peers of similar job responsibility and reporting level. This system met with considerable initial resistance. (Previously, managers within a functional area were evaluated against peers across all other functions within a local area.) Tenaris HR adjusted remuneration by determining the ratio of fixed to variable pay based on position class (the higher the position, the larger the variable component) and geographical considerations. Position classes were first redefined on a global basis, although classifications remained incompletely reconciled across some national territories. Indeed, the goal of creating a globally consistent compensation system proved challenging. For instance, the recent collapse of the peso in Argentina sharply lowered the cost of living in Buenos Aires relative to other Tenaris locations. The next step for Tenaris was to standardize the variability in position classes across the organization and to adjust it to make the organization as a whole more performance oriented. Tenaris HR also faced the challenge of implementing the new system across the globe without increasing cost.

Post Integration Culture

Perhaps the greatest challenges to implementing the reorganization were cultural. In becoming a truly unified but multicultural organization, norms and behaviors needed to shift to meet the demands of a larger, more centralized, global, and service-oriented company. Which ways to abandon and which to develop were central questions across all parts of Tenaris.

Results from a Tenaris culture diagnosis conducted in late 2003 among 190 top managers revealed a strong alignment across all units of the organization in regard to basic norms and values (See Exhibit 12). What was not clear was how far down in the organization this shared alignment went: Were line managers and key employees thinking of themselves as members of a single, unified company and acting accordingly?

At the same time, the strength of the culture suggested an increased tendency to adhere to existing ways of doing things, regardless of whether they should be changed or not. The case of accounting and finance served as an example. CFO Carlos Condorelli, who had been largely removed from the implementation process due to his involvement in the exchange, realized after a few months that several of his new direct reports under the new structure remained aligned to the old decentralized reporting structure and were not actively supporting the change project. "We saw the need to take one to two extra months to tell people about what we were doing," said Condorelli, who became more personally involved with the renewed communication effort. He added, "It's very important that this is not only about cost savings but is seen as a better way… the biggest challenge is convincing our employees that we can create value better as one."

Guillermo Noriega, senior executive and area manager for Argentina and the rest of the Southern Cone, pointed to one of the difficulties in garnering support: "People think this is impossible… people are being overwhelmed by the long list of changes, new things to know—we are at risk that we are trying to do too many things." Fear was a factor, as one Tenaris manager remarked, "What we are doing is more than just change a name. There is a tremendous amount of uncertainty and this can be somewhat frightening to people."

One company observer likened the situation to changing the engines on an airplane in flight. "No, no," replied a Tenaris executive, "we are assembling the plane in flight and everyone has a different piece." As global consultants working with Tenaris had pointed out, it was important to

appreciate that the transformation being attempted was largely unprecedented among firms of this scope and scale.

Exiros procurement manager Renato Catallini noted the effects within his group: "In Exiros we have changed the organization three times in the last 18 months. And we will continue to change it because we find new reasons why things should be done differently. It's not wrong that people are looking for stability, looking for an answer, and looking for a comfort zone. But they will not find it right away."

Nevertheless, the uncertainty was affecting people's attitude toward risk-taking. "This new model invites you not to take tough decisions because there are so many complicating issues…. Before, we would take risks… now, it's wait, I'll talk to a lawyer," claimed one veteran Tenaris executive. Another executive noted, "We were used to this famous Garcia message, you do whatever you have to do. And nobody would blame you if you made more decisions than you would normally. I fear that if I make a decision now, I may come under blame, that I'm running a risk that I shouldn't take."

Another key challenge to culture change was that some Tenaris managers felt changes might obliterate strengths associated with the past. "We are losing some of the ways that we ran the company for many years," remarked one senior executive. There was uncertainty regarding how some of these ways might remain effective and practical in a larger, global firm. Alberto Iperti, procurement director and head of Exiros, who was one of the few non-Argentine nationals based in the Buenos Aires office, described one of these qualities: "If there was a problem, it was handled with a commitment that goes beyond just the traditional employee-company relationship. There is a value to that."

An allegiance to old ways was also tied to the pride in the company's past, such as the organization's successes running production plants aggressively and efficiently within demanding emerging market conditions. "We took pride in Sumitomo's announcing that they would do JIT, and we have lots of examples like that," remarked one Tenaris manager.

Another challenge to cultural integration was the strong identity that the core companies derived from their national cultures. On the one hand, these national identities were strategically important to preserving a competitive advantage with local customers. "For example, if PEMEX sees you as a non-Mexican company, it is a completely different ballgame. We are talking about a completely different relationship. So we want to preserve the relationship as a domestic one," pointed out Vogel. On the other hand, some recognized a need to minimize the influence of national cultures, such as in the case of Argentina. Some perceived that Argentina was becoming the new headquarters, in both place and spirit. As one senior executive described it, there was the fear of "being a satellite of a big monster" under the new unified structure. "The weight of Argentina is very heavy on the rest of the company," admitted European Area Manager Alberto Valsecchi.

Furthermore, some national cultural conventions proved less workable within the new global firm. For instance, the custom of expecting managers to act on only one- or two-word instructions did not work well at AlgomaTubes. There the Anglo-Saxon norm was to expect a

clearer explanation of what was needed, a timeframe, and an understanding of the consequences of following one direction versus another. One Tenaris executive described the standardization of routines that was presently underway as a move towards a more Anglo-Saxon mindset that contrasted with the traditional Argentine managerial style, acknowledged as "less structured" and "built upon personal relationships."

Resistance to the new forced ranking approach to performance evaluation illustrated the difficulty in adapting aspects of Latin culture to more Anglo-Saxon norms. Some felt that a Latin cultural tendency to view things in more absolute measures conflicted with the relative assessment used in forced ranking. For instance, if someone is rated a "7" on a scale of "1 to 10" and then later told that they are a "6" because of how others were ranked, it makes little sense to a Latin cultural mindset. One Tenaris manager elaborated on the Latin norm with a family-oriented analogy: "You are considered either a good son or a bad son, regardless of the standing of other family members."

Still, with 50 percent of oil industry customers based in the United States, working well with Anglo-Saxon cultures was seen as an increasingly important business objective. Planned expansion into other emerging markets required adaptability as well. "In order to grow we need to be prepared to accept other cultures… we are looking at Eastern Europe, China," pointed out Valsecchi. Successes integrating with the Japanese culture predominant in the NKKTubes joint venture were important experiences that Tenaris looked to use when dealing with other new cultures.

In the face of resistance to change, Tenaris managers began to hold conventions in which stakeholders were brought together (physically or virtually) to introduce new policies, practices or systems. Still, HR Director Radnic admitted, "I sometimes think that we are still not doing enough. We should have even more intense communication and training programs and workshops and all of these things, which are so much against our old culture." He acknowledged that the mechanisms for changing the culture—such as explicit communication, better defined processes, clearer accountabilities, greater transparency—were in a sense the cultural change itself.

Radnic reiterated the cultural challenge facing individual managers:

> The natural aspects of the old leadership don't work anymore. It is not just a question of saying that I need to communicate more. I need to really transform myself in a way that is almost unnatural because it changes the very essence of everything for which I trained or what I had been told and understood in the beginning.

Rocca added:

> From our point of view, the cultural divide is the culture embedded in different structures of the company. Tamsa is 50 years old, and Siderca is 50 years old; Tenaris is two years old. So the Tenaris way will have to develop over time because today it is a very young culture. This will take time. We cannot build it

> in, let's say, two years. I think this will take a great time and lots of work and lots of concentration.

Global Success with TenarisBlue

The development of the premium connection TenarisBlue symbolized Tenaris's ability to manage and think as one organization (Exhibit 13). Initially Tenaris acquired a number of proprietary connections from outside suppliers and marketed them through the commercial network, benefiting customers with the broad selection. The Tenaris R&D organization realized that there would be an advantage in a connection that combined the best characteristics of all. At the same time, industry trends suggested an increasing demand for pipe with even more advanced specifications suited to harsher environments.

Cura recalled,

> Typically, you use a 'dope' that acts as a lubricant that allows you to put two pipes together faster, more reliably. But this dope that you use has a very adverse environmental effect. So I said, 'We need an industry breakthrough. It's not hopeless, it's dopeless.' And the product development team took it on, and very soon they came out with a solution, a good solution.

The best people from the R&D centers in Argentina, Italy, and Japan came together to launch the product development, beginning with the quantitative stage that examined the specifications required. Many face-to-face meetings took place across the three R&D centers. The team next used computer modeling to refine the engineering. The next stage was finite element modeling, for which each regional center had its own capability. The team split this work across the regional centers and made final design revisions. The three centers each conducted the critical final testing of the product. In the end, the team applied for patents, but only three individuals could participate in the application. In a symbolic gesture of unity, the 10-member team easily agreed on the three who would apply.

An e-mail from one of Tenaris's large oil company customers praising the new TenarisBlue product over the competition affirmed the results of the project. Rocca circulated the e-mail to his management team, adding: "When we hear these stories we know that we are succeeding."

Integrating the Supply Chain Management Function and New Services

The challenge in integrating the new SCM function illustrated that, while the architectural principles of the organization design were clear, the practicalities of execution remained less so. The new SCM operation was created to link the commercial (i.e. sales or front-end) operations with the manufacture and development of products and services (Exhibit 14). The change was intended to allow the commercial front end more time for business development and at the same time provide a more efficient and standardized order execution service to customers. SCM was expected to increase efficiency, thereby reducing costs, while at the same time facilitating the delivery of new value-added services.

These new service activities represented a significant departure from the traditional manufacturing operations of the organization. They might entail, for instance, taking pipe from Siderca and threading it at a facility in Nigeria or converting pipe from AlgomaTubes into a customized small component required in an automotive air bag.

The activities were not only new, but diverse, further complicating consensus surrounding where and how to best execute them at Tenaris. For example, when a new pipe running service (actually sinking pipe into the well for a customer) was established, a disagreement arose between supply chain managers and business unit managers from the front end regarding primary control of the service. The debate revived lingering questions about SCM's takeover of some responsibilities previously handled by the front-end managers.

Rocca eventually stepped in and settled the matter, affirming that SCM would hold primary responsibility for the execution of the pipe running service. The situation highlighted how history and tradition still complicated execution. One Tenaris executive remarked, "Ten years ago there was a lot of work and effort expended to integrate sales activity with the rest of the business unit.… We now have pulled it apart again by separating sales from certain customer management activities presently given to supply chain." This put a lot of pressure on SCM to prove itself flawlessly and was the reason Lammertyn was so wary of tactical mistakes during the change process: "The moment that you make a mistake is the moment everybody is questioning whether this is the right way to do it or the right thing to do."

Another executive noted the challenges at the day-to-day level: "Supply chain is a very big change. If you go look at the people who are doing the work, who used to be working in the same room, now they have new bosses. It is very complicated and the impact on day-to-day jobs is very dramatic. Hopefully they are right with this new approach."

Rocca's decision to establish the new position of chief operating officer, to be assumed by Alberto Valsecchi, was expected to help improve coordination between Production Units, Business Units, SCM and Commercial Front End, all of which would report ultimately to him.

Paolo Rocca

Rocca had been working for Tenaris since 1985 and had played a key role in the global expansion that Roberto began with Siderca in the 1980s. By 1986 Rocca had become a member of Siderca's board of directors and by 1990 was appointed CEO. But Rocca's commitment to Tenaris went well beyond his formal role as executive and majority shareholder. Despite its scale and scope, Tenaris was in many ways still a family company in Rocca's eyes.

The values of trust and commitment belonging to his father Roberto and grandfather Agostino were strengths of the Tenaris culture that he felt should be part of the global growth. "It seems that we have been able to take the family aspect of the culture and make this something that translates in Canada, Mexico."

With the reorganization effort and the added Techint responsibilities that Rocca assumed following Roberto's death, there were fewer opportunities for Rocca to maintain the same personal involvement in the day-to-day dealings of the company. Rocca noted, "I used to stay

very close to the business, in close contact with many people, and sometimes entered into decisions at different levels. And I try to do the same now, even if today the complexity is much higher. So this is a conflict." The change was difficult, Rocca admitted. Others at the company recognized this as well. "We need to create an organization that is not so dependent on Paolo's direct involvement," noted one senior executive.

Partly in response to this dilemma, Rocca decided to introduce the new chief operating officer position as of February 2004. Rocca noted, "Now with the COO I think that I could delegate and hopefully not interfere too much…and be able to dedicate more to the expansion of the business."

Future COO Alberto Valsecchi observed: "Paolo is extraordinary in many things, but his capacity to be involved in everything is limited …. I think there are some mistakes in entering too much into the details …. There are vision issues which he is very good at taking and to which he should be able to devote more time." Added Lammertyn, "Everybody is asking Paolo to be more strategic and focus less on the operative. And I think he knows that he should be there and he is really eager to move to that level. But, of course, because of his knowledge, his way of working, his attitude, et cetera, he is the one who can solve many problems because he knows a lot of things that even the most operative guys don't know."

There was uncertainty regarding how easily Rocca and the organization would adapt to these changes. Rocca's hands-on involvement was deeply rooted in his remarkable work ethic and personal commitment to the organization. "If Paolo weren't working so hard then the whole process would be more difficult," acknowledged one senior executive. Rocca believed the demanding pace was part of the required change and, in fact, was disappointed that the company had not yet achieved some of the anticipated cost savings from the integration. "We discovered things as we have made changes; when we expanded into the export market, we realized that we could have done so much more …. We can get there first; if we don't do it, we may be losing an opportunity."

However, as Rocca frequently pointed out, it was the heritage of the company to take risk and engage in change, and the successes thus far were encouraging. The 100 percent appreciation of the Tenaris stock price in the year following start of trading on the NYSE was a significant example.

The New Tenaris

As Paolo Rocca considered all of the changes facing Tenaris employees as a result of the reorganization, he wondered what would be most important in keeping them motivated and committed.

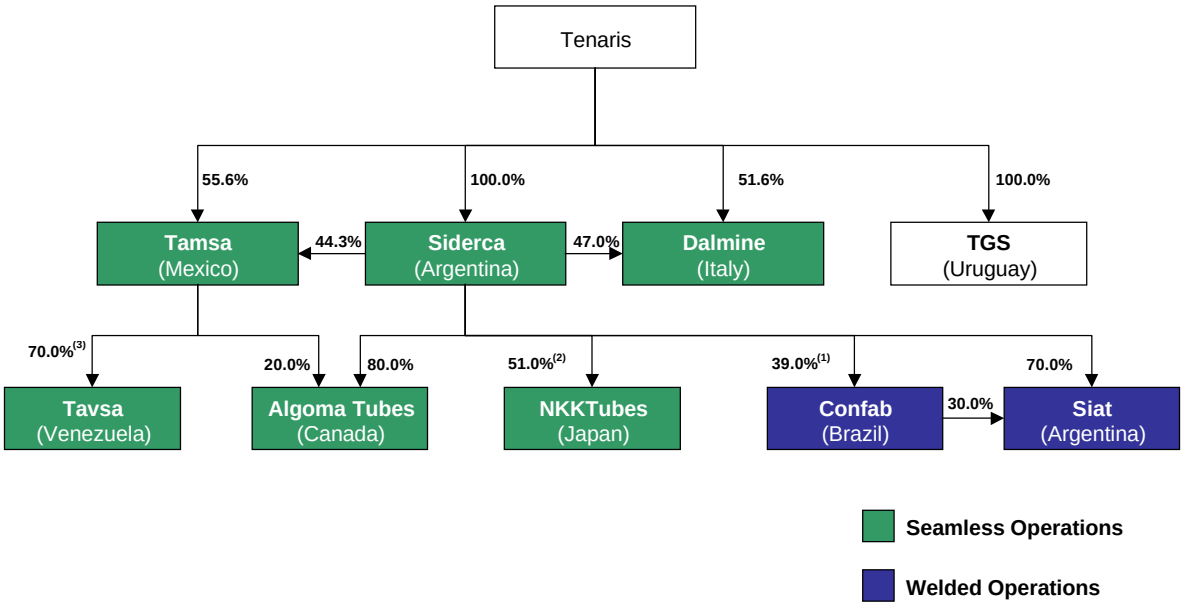
Getting his managers to focus more heavily within their teams on people development and human resources issues such as hiring, training, and career development seemed a promising approach. The question was how best to do that, given that it was such a significant departure from traditional practice. Ultimately, it seemed that each manager needed to take the responsibility for translating the meaning of "one company" into practical terms, offering their

people clear-cut execution strategies and timetables. What more could he do to make that happen?

Given Tenaris's strong manufacturing tradition (it was in the organization's "DNA," as Rocca saw it) the challenging shift toward services was also top of mind. To make the desired change work, Rocca and his team needed to present a clear story on this issue, but some questions still lingered. How deeply should Tenaris go into services and what were the tradeoffs? Did it mean doing less product development? Less global expansion? To what extent was the move to services intended just to sell more product, as opposed to being part of a fundamental shift toward becoming a services-based company? Which service capabilities should be developed internally as opposed to acquired through acquisition?

Part of the problem seemed to be that there was no acute crisis to galvanize people around the need to change. Considering this made Rocca recall a memorable description of leadership: leadership is about getting people and organizations to do things that do not come naturally. Tenaris had the global structure and processes in place or underway, but what more was needed to get Tenaris people to "walk the walk"?

Exhibit 1
Tenaris's Corporate Structure



Source: Company documents

Exhibit 2
Tenaris Manufacturing and Customer Service Centers

Source: Company documents

Exhibit 3
Tenaris Steel Pipe Products

Seamless steel casing. Seamless steel casing is used to sustain the walls of oil and gas wells during and after drilling.

Seamless steel tubing. Seamless steel tubing is used to extract crude oil and natural gas after drilling has been completed.

Seamless steel line pipe. Seamless steel line pipe is used to transport crude oil and natural gas from wells to refineries, storage tanks and loading and distribution centers.

Seamless steel mechanical and structural pipes. Seamless steel mechanical and structural pipes are used by the general industry for various applications, including the transportation of other forms of gas and liquids under high pressure.

Cold-drawn pipe. The cold-drawing process permits the production of pipe with the diameter and wall thickness required for use in boilers, superheaters, condensers, heat exchangers, automobile production and several other industrial applications.

Premium joints and couplings. Premium joints and couplings are specially designed connections used to join lengths of seamless steel casing and tubing for use in high temperature or high-pressure environments. A significant portion of our seamless steel casing and tubing products are supplied with premium joints and couplings. Tenaris owns the intellectual property rights to the Antares and NKK range of premium connections and holds licensing rights to manufacture and sell the Atlas Bradford range of premium connections outside of the United States.

Welded steel pipes. Welded steel pipes are processed from steel coils and plates and are used for the conveying of fluids at low, medium and high pressure, and for mechanical and structural purposes.

Source: Company documents

Exhibit 4
Tenaris's Income Statement & Balance Sheet

(All amounts in US$ thousands)	Fiscal year ended December 31, 2003	2002
Net sales	3,179,652	3,219,384
Cost of sales	(2,207,827)	(2,169,228)
Gross profit	971,825	1,050,156
Selling, general and administrative expenses	(566,835)	(567,515)
Other operating income and expenses	(116,800)	(10,764)
Operating income	288,190	471,877
Financial income (expenses), net	(29,420)	(20,597)
Income before income tax and equity in earnings (losses) of associated companies	258,770	451,280
Equity in earnings (losses) of associated companies	27,585	(6,802)
Income before income tax and minority interest	286,355	444,478
Income tax	(63,918)	(207,771)
Net income before minority interest	222,437	236,707
Minority interest (1)	(12,129)	(42,881)
Net income before other minority interest	210,308	193,826
Other minority interest (2)	-	(99,522)
Net income	**210,308**	**94,304**

(1) Minority interest excluding minority interest attributable to participations in consolidated subsidiaries acquired in the Exchange Offer
(2) Minority interest attributable to participations in consolidated subsidiaries acquired in the Exchange Offer

Exhibit 4 (continued)
Tenaris's Income Statement & Balance Sheet

(All amounts in US$ thousands)	December 31, 2003		December 31, 2002	
Assets				
Non-current assets				
Property, plant and equipment, net	1,960,314		1,934,237	
Intangible assets, net	54,037		32,684	
Investments in associated companies	45,814		14,327	
Other investments	23,155		159,303	
Deferred tax assets	130,812		113,864	
Receivables	59,521	2,273,653,3	16,902	2,271,317
Current assets				
Inventories	831,879		680,113	
Receivables and prepayments	165,134		172,683	
Trade receivables	652,782		653,249	
Other investments	138,266		0	
Cash and cash equivalents	247,834	2,035,895	304,536	1,810,581
Total assets		4,309,548		4,081,898
Equity and Liabilities				
Shareholders' equity		1,841,280		1,694,054
Minority interest		119,984		186,783
Non-current liabilities				
Borrowings	374,779		322,205	
Deferred tax liabilities	418,333		500,031	
Other liabilities	191,540		123,023	
Provisions	23,333		33,874	
Trade payables	11,622	1,019,607	18,650	997,783
Current liabilities				
Borrowings	458,872		393,690	
Current tax liabilities	108,071		161,704	
Other liabilities	207,594		53,428	
Provisions	39,624		73,953	
Customers advances	54,721		37,085	
Trade payables	459,795	1,328,677	483,418	1,203,278
Total liabilities		2,348,284		2,201,061
Total equity and liabilities		4,309,548		4,081,898

Source: Company documents

Exhibit 5
Tenaris Historical Milestones

1909 Dalmine as a subsidiary of Mannesmann begins manufacture of seamless steel tubes in Italy.

1914 Nippon Kokan Kabushiki-gaisha (NKK) begins manufacture of seamless steel tubes in Japan.

1924 Dalmine lists on the Milan Stock Exchange.

1935 Agostino Rocca, the future founder of the Techint Group of Companies, becomes managing director at Dalmine.

1953 Tamsa lists on the Mexican Stock Exchange.

1954 Tamsa begins operations in Mexico and Siderca begins operations in Argentina. Both plants are constructed by Techint.

1958 Siderca lists on the Buenos Aires Stock Exchange.

1960 Confab, a Brazilian manufacturer of industrial equipment, begins to produce welded steel tubes.

1967 Tamsa lists on the American Stock Exchange, becoming the first Mexican company to list on a U.S. Stock Exchange through an American Depositary Receipts (ADR) program.

1980 Algoma orders North America's first retained mandrel seamless tube mill.

1986 Siderca takes over Siat, an Argentine welded pipe manufacturer established in 1948.

1993 Siderca acquires a controlling interest in Tamsa and forms a strategic alliance.

1996 Siderca acquires a controlling interest in Dalmine following its privatization and the strategic alliance becomes DST.

1998 Tamsa establishes Tavsa with Corporación Venezolana de Guayana to take over Sidor's seamless steel tube mill in Venezuela.

1999 Siderca acquires control of Confab.

2000 Siderca and NKK Corporation form NKKTubes to take over NKK's seamless tube manufacturing business at Keihin Works (Tokyo, Japan).
Siderca leases Algoma Steel's seamless steel tube plant and begins operating AlgomaTubes.

2001 The Tenaris brand name is introduced replacing DST.
Siderca lists on the New York Stock Exchange (NYSE).

2002 Tenaris S.A., a company organized in Luxembourg, becomes the group holding company following an exchange offer for the shares of Siderca, Tamsa and Dalmine and its simultaneous listing on the New York, Buenos Aires, Italian and Mexican stock exchanges.

Source: Company documents

Exhibit 6
Descriptions of Tenaris's Eight Production Mills

Siderca
26% of Seamless Capacity — Argentina
Siderca is the leading supplier of seamless steel pipe products and services to the Argentine energy industry and a major exporter of value-added products. Its manufacturing facilities are located in the city of Campana, in the Province of Buenos Aires, and it has an annual production capacity of 820,000 tons of seamless pipes and a workforce of 4,300 employees.
Siderca began production in 1954 and today exports more than 70% of its production.

Dalmine
30% of Seamless Capacity — Italy
Dalmine is a leading European manufacturer and supplier of high quality seamless pipes for the energy, automotive and mechanical industries. Its principal manufacturing facilities are located in Dalmine, Bergamo, and it has an annual production capacity of 950,000 tons of seamless pipes and a workforce of more than 3,000 employees. Dalmine began production in 1908 and exports more than 60% of its shipments from Italy. Tenaris acquired effective control of Dalmine in 1996.

Tamsa
25% of Seamless Capacity — Mexico
Tamsa is the leading supplier of seamless steel pipe products and services to the Mexican energy industry as well as a major exporter of value-added products and supplier of pipe products for other domestic industrial applications. Its manufacturing facilities are located in Veracruz, and it has an annual production capacity of 780,000 tons of seamless pipes and a workforce of 2,500 employees. Tamsa began production in 1954 and exports more than 60% of its production. Tenaris acquired effective control of Tamsa in 1993.

AlgomaTubes
8% of Seamless Capacity — Canada
AlgomaTubes is the sole Canadian producer of seamless pipes and a major producer of high quality seamless pipes mainly for the Canadian energy industry. It has manufacturing facilities located in Sault Ste. Marie, Ontario, and it has an annual production capacity of 250,000 tons of seamless pipes, and a workforce of 400 employees. The AlgomaTubes plant began production in 1965 but was shut down in 1998. Tenaris reopened the mill in 2000 under a lease and completed its purchase in January 2004.

Tavsa
3% of Seamless Capacity — Venezuela
Tavsa is the sole Venezuelan producer of seamless steel pipes and a supplier of seamless pipes and associated services to the Venezuelan oil and gas industry. It has manufacturing facilities located in Ciudad, Guyana, Venezuela with an annual production capacity of 80,000 tons of seamless pipes and a workforce of 250 employees. The plant began operation in 1960 as part of Sidor and was acquired by Tenaris in 1998.

NKKTubes
8% of Seamless Capacity — Japan
NKKTubes is a joint venture between Tenaris and the former NKK Corporation formed to operate the seamless pipe business of NKK. It specializes in the production of high-grade seamless pipes for oil and gas and industrial applications. Its manufacturing facilities are located in Kawasaki city, Japan, and it has an annual production capacity of 260,000 tons of seamless pipes and a workforce of 600 employees.
The NKK began production of seamless pipes in 1914 and NKKTubes took over operations in 2000.

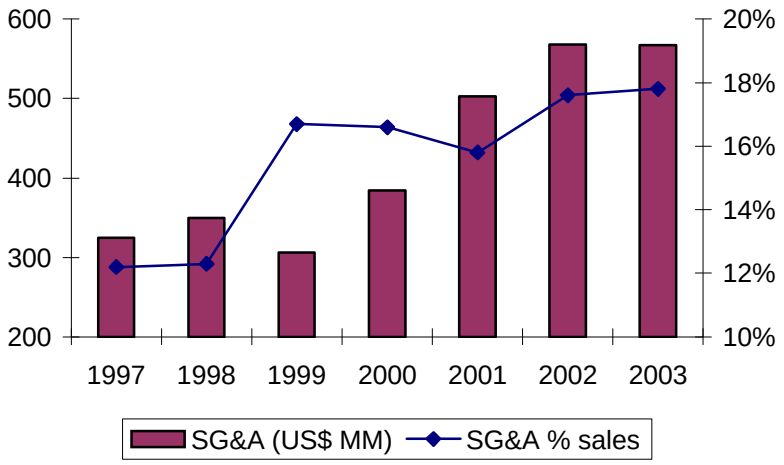
Siat
41% of Welded Capacity — Argentina
Siat is a leading producer of welded pipes for domestic and regional oil and gas pipelines. Its manufacturing facilities are located in Valentín Alsina, in the province of Buenos Aires, and it has an annual production capacity of 350,000 tons of welded pipes, and a workforce of 260 employees. Siat was founded in 1948 and acquired by Siderca in 1986.

Confab
59% of Welded Capacity — Brazil
Confab is the leading producer and supplier of welded pipes to the Brazilian energy industry, and a leading exporter of these products to Mercosur and Latin America. Its manufacturing facilities are located in Pindamonhangaba, SP, and have an annual production capacity of 500,000 tons of welded pipes. It also has a division, which produces heavy industrial equipment for Brazilian and export markets. Confab has 2,300 employees.
Confab began production of welded pipes in 1961 and was acquired by Tenaris in 1999.

Source: Company documents

Exhibit 7
Tenaris Logo

Exhibit 8
Tenaris SG&A as Percentage of Sales



Source: Company documents

Exhibit 9
Key Elements of "Tenaris Way" Management Model

- Financial management based on profit centers by business segments (seamless, welded, energy, others).
- Commercial management based on global and local BUs. The global BUs set the agenda in each sector (increase of sales direct to end users, higher content of services where a competitive advantage can be made).
- Area managers covering the whole world to take advantage of Tenaris' particular local strengths.
- Industrial management based on production units (PUs) managed by the area managers under common management principles and an ample exchange of knowledge of technology, product and know-how.
- Integrated management of the supply chain up to the end users to assure the best allocation of production between the PUs and to establish competitive advantage against other producers and service providers.
- Centralized management functions, adding differentiating factors to gain customer loyalty and operate more efficiently or, more succinctly, to create value for the company. Perhaps this is the area in which the exchange offers most opportunity for cost reduction.
- A single, integrated procurement structure, to shorten the supply chain and establish a global network of efficient and flexible suppliers.
- The extensive use of IT to bind together a global company and give real time visibility in management control and customer relations. Systems integration is a necessary condition for an integrated management. IT is the business.
- Matrix organizational structure based on specialized functions which cover the needs of various areas and whose responsibility therefore goes beyond the individual profit centers. The organization is a flat matrix where no one has more than two reporting lines, one of which (the primary) determines the position in the organization and performance evaluation.
- Multi-cultural mix of human resources, which requires a substantial integration of global and local functions and a high capacity to adapt to local conditions. The distribution of centers of competence among the different countries in which Tenaris operates will prevent the domination of any one culture over the others and open up opportunities for growth in all geographical areas.
- Knowledge management. The transition from a structure based on individual legal entities to an integrated company requires a systematic organization and diffusion of internal know-how. Knowledge accumulated at the level of the individual must be protected, diffused through training, systematically improved through research and development and enriched through the interchange of best practices among the various areas and finally preserved as an asset of the company.

Source: Company documents

Exhibit 10
Tenaris's Four Global Business Units

Tenaris Oilfield Services
Targeted oil and gas companies in their drilling activities.

Tenaris Pipeline Services
Targeted oil and gas and other energy companies in their activities of transporting fluids and gases. The head manager was based in Mexico. The customer base included the engineering and construction companies that were fundamentally engaged in pipeline construction, particularly, deepwater pipeline construction. Together, oilfield services and pipeline services focused on the entire "upstream" (involving exploration and production) market segment.

Tenaris Process and Power Plant Services
Targeted refineries, petrochemical companies and energy generating plants for construction and maintenance purposes. The focus was on the piping requirements of "downstream" segments involving refinery projects, power generation projects, and related construction.

Tenaris Industrial and Automotive Services
Targeted automobile and other industrial manufacturers. This business unit grew out of the Dalmine manufacturing plant and was not yet considered a "global unit" on par with the other three. The customer base consisted of industrial customers, non-energy related companies that used pipes primarily for machinery, automotive, equipment and related applications (e.g. Caterpillar, GE Locomotive Systems, and large auto part assemblers such as Delphi). The market was much more atomized relative to the others because of the high number of machine shops buying pipes and machining different components for a wide variety of equipment. These Tenaris customers were also concentrated in North America and Europe, where high levels of industrial development took place. "We're dealing with GM, but at the same time, with about 5,000 different customers in northern Italy alone, and we're trying to obviously take care of them all," remarked Cura.

Source: Company documents

Exhibit 11
Tenaris's Headcount
White Collar Personnel

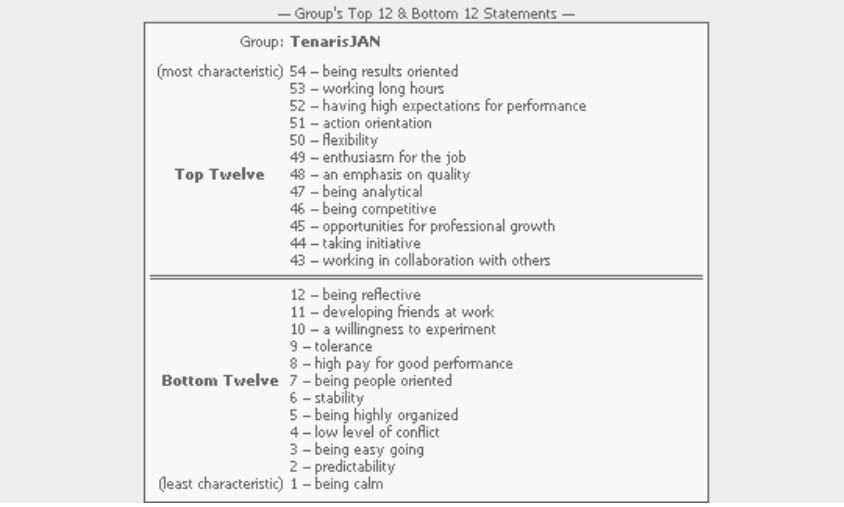
REGIONAL HEADCOUNT	Argentina	Mexico	Brasil	Resto America	Italia	Resto Europa	Japon	Resto Asia	Africa	Total
GLOBAL AREAS										
CEO	7	6	4							17
INTRANET	5									5
DIAF	152	53	61	51	64	9		6	5	401
IT	106	58	28	5	72	2		1		272
HUMAN RESOURCES (DIRH)	43	17	9		21					90
FRONT END	23	18		77	36	26	1	32	8	221
SUPPLY CHAIN MANAGEMENT	187	126	27	50	235	26	32	11	13	707
PROCUREMENT	99	27	37	14	42					219
TECHNOLOGY (*)	28	16	4	1	31		5			85
OTHER CORPORATE (**)	70	17	5	2	18					112
TOTAL GLOBAL AREAS	720	338	175	200	519	63	38	50	26	2129
AREA MANAGERS										
ARGENTINA	524									524
CANADA				41						41
EUROPE					627	5				632
JAPON							119	1		120
MEXICO		670		13						683
VENEZUELA				32						32
WELDED	42		544	2				2		590
TOTAL AREA MANAGERS	566	670	544	88	627	5	119	3		2622
TOTAL TENARIS	1286	1008	719	288	1146	68	157	53	26	4751

* Includes Technology and Industrial Coordination

** Includes Corporate Communications, Audit, Legal, Corporate Planning, Institutional Relations, Chairman and Investor Relations

Source: Company documents

Exhibit 12
Tenaris Culture Profile



— Group's Top 12 & Bottom 12 Statements —

Group: **TenarisJAN**

(most characteristic)	54 – being results oriented
	53 – working long hours
	52 – having high expectations for performance
	51 – action orientation
	50 – flexibility
	49 – enthusiasm for the job
Top Twelve	48 – an emphasis on quality
	47 – being analytical
	46 – being competitive
	45 – opportunities for professional growth
	44 – taking initiative
	43 – working in collaboration with others
	12 – being reflective
	11 – developing friends at work
	10 – a willingness to experiment
	9 – tolerance
	8 – high pay for good performance
Bottom Twelve	7 – being people oriented
	6 – stability
	5 – being highly organized
	4 – low level of conflict
	3 – being easy going
	2 – predictability
(least characteristic)	1 – being calm

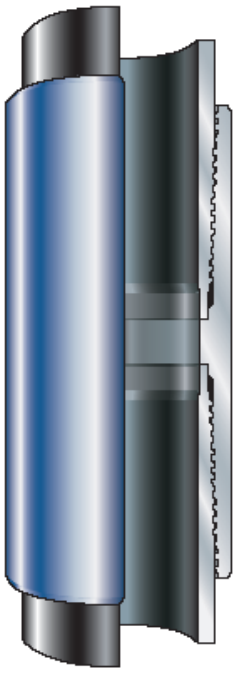
In late 2003, 190 Tenaris managers participated in a Web survey that resulted in a forced ranking of 54 "value characteristics" used to describe a work environment. The 54 descriptors and the methodology were based on published research regarding the profiling of organizational culture. The results above show the "Top Twelve" of the 54 descriptors identified by Tenaris managers as "most characteristic" of their "existing work environment" and the "Bottom Twelve" identified as "least characteristic" of their "existing work environment." The Web survey also provided a comparison of responses across different groups (e.g. geographical, functional, hierarchical) and measured comparative fit. In the case of the Tenaris survey, the responses regarding "most characteristic" and "least characteristic" were highly consistent across different groups. For more information on the survey methodology, visit: www.thinkshed.com.

Source: Company documents

Exhibit 13

Technological Breakthrough: Introducing TenarisBlue

Tenaris has just announced the launching of a new premium connection for the OCTG market incorporating its new TenarisBlue technology.

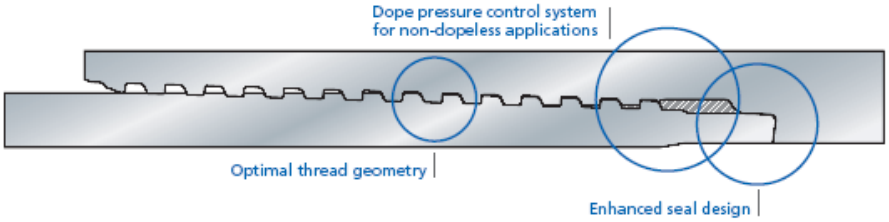


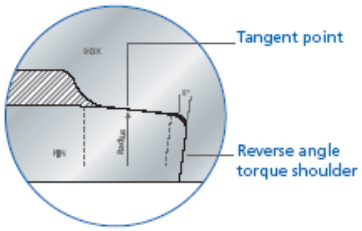
Tenaris introduces its new premium connection technology, carefully designed to provide its customers added value through enhanced all-round performance. TenarisBlue offers increased safety, lowered trouble time and reduced risk. A special feature is a breakthrough dopeless option for enhanced environmental protection.

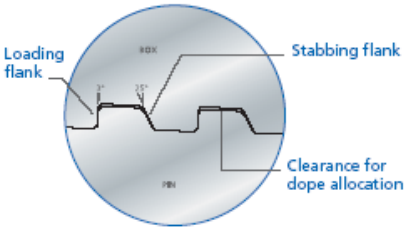
The TenarisBlue premium connection has been designed for use in today's increasingly complex and environmentally sensitive oil and gas activities.

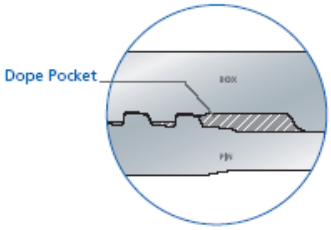
Jim Aivalis, Managing Director of TenarisConnections, commented, "TenarisBlue, with its outstanding all-round capabilities, will set a new reference standard for premium connection technology and establish TenarisConnections as the primary source of premium connections for the OCTG market."

TenarisBlue will be manufactured at the Tenaris mills and supported by a worldwide network of licensed threading and repair shops with online access to all relevant technical drawings and specifications as well as handling and running services from Tenaris experienced team of field engineers.









TenarisBlue's main features include:

- Robust design with excellent structural behavior and gas sealability under combined loading conditions for reliability and safety in demanding conditions.
- Dopeless option for enhanced environmental protection and an effective dope pressure control system for use with conventional doping.
- Easy stabbing, fast make-up and reduced galling tendency for ease of use and reduced overall costs.
- Equal suitability for both carbon steel and CRA materials for improved versatility in well design programs.
- Availability in a wide range of tubing and casing sizes from 2-3/8" to 13-3/8".

Exhibit 14
Supply Chain Management