



PEOPLE POWER

ARTICLE

UP UNTIL FIVE YEARS AGO, US CHEMICALS GIANT DUPONT HAD FOR 20 YEARS FOCUSED ITS RESOURCES ON EXECUTION AND SAFETY, WITH A RELATIVELY LOW INVESTMENT IN PEOPLE DEVELOPMENT. THIS ALL CHANGED IN 2006 WITH THE ROLLOUT OF THE ORGANISATION'S OWN PRODUCTIVITY INITIATIVE, THE DUPONT PRODUCTION SYSTEM (DPS). SINCE THEN, THE DEVELOPMENT OF ITS PEOPLE AND THE RAPID DEPLOYMENT OF BEST PRACTICE ACROSS ITS GLOBAL OPERATIONS HAS BECOME DUPONT'S MOST IMPORTANT INSTRUMENT FOR FUTURE GROWTH AND SUSTAINABILITY. IN FACT, THE EXTRAORDINARY SPEED AND EFFICIENCY WITH WHICH THE CORPORATION IS ACHIEVING THIS, HAS BECOME A BENCHMARK FOR OTHERS TO FOLLOW. AT THE TRACC AFRICA MIDDLE EAST CONFERENCE HELD IN JOHANNESBURG EARLIER THIS YEAR, DPS PROGRAM CHAMPION FOR DUPONT EMEA, THOMAS PFEIFFER, EXPLAINED HOW THEY MAKE IT HAPPEN.

Adapted from a presentation given by Thomas Pfeiffer — DPS Program Champion, DuPont Emea



The DuPont Production System (DPS)

In his presentation Pfeiffer described how, through the implementation of the DPS, employee mindsets have changed at all levels in order to take the organisation from the reactive 'fire fighting' environments to that of achieving operational excellence and value creation for customers. The focus of the system is to standardise and improve managing and operating practices across the organisation's operating base. "We want to do three things with the DPS," said Pfeiffer. "We want to drive operating discipline through best practices, align a diverse, global organisation and drive bottom line returns."

The DPS consists of four core enabling elements – managing processes, a technical pillar, capability building, and mindsets and behaviours. Global rollout of DPS was preceded by data gathering, a comprehensive diagnostic and finally the design and planning of the process. Initially two pilot sites were identified – one in the US and one in Europe. "DuPont has a wide variety of products and processes, from batch to continuous, and we had to prove that a system such as DPS can be applied successfully in all these environments." Another equally important consideration was to

ensure that the system was proportionately applicable in different cultural environments.

DPS meets TRACC

In 2009, DuPont identified a need for a systematic, shop floor-driven approach to implement and sustain best practices for operating discipline. A rigorous selection process saw TRACC being selected to support and sustain all these aspects in a standardised manner across DuPont's global operations. This, in itself, presented a few unique challenges. "By its very nature, DuPont has an experimental and inventive culture. It is in our DNA. We're not fond of standardisation, and now it had to be implemented across the business!" Pfeiffer said. Another challenge was the fact that DPS had already been rolled out to 18 sites, including some of the largest sites in DuPont's portfolio. "The biggest test proved to be our own mindset. We had already developed change agents in all these sites and they owned the DPS process. Suddenly they had to align

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Over a period of two years, the plants generated an astonishing 6 000 ideas of which more than 3 000 were implemented.

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and integrate this with TRACC. This proved to be a good test for our ability to learn and adjust fast.”

Continued on page 2



ARTICLE

PEOPLE POWER *continued from page 1*

Centralised guidance and support; decentralised line-led execution

The DPS TRACC programme is being driven by the Global Programme management Office (GPMO). At the beginning, central resources mapped the TRACC content to the DPS architecture and DuPont's deep content. DPS TRACC was then retrofitted to the 18 deployed sites, and initiated together with other DPS processes at additional sites, with Maydown in Northern Ireland becoming the first European site to begin with DPS TRACC.

To manage the deployment process, the GPMO introduced a short-cycle PDCA process. Sites report every two weeks on progress against standard deployment timelines and metrics. Accomplishments are celebrated and opportunities that require GPMO assistance are identified. Deployment champions and site-based experts provide feedback on the deployment process, which the GPMO then considers for improvements, and thereafter standardisation. Site deployments are prioritised and sequenced and a standard global deployment process is now being followed, with customisation of this process by exception.

At site level, DPS experts, internal trainers, and master trainers support the implementation.

DPS TRACC focus

The DPS TRACC programme focuses on the shop floor, with special emphasis placed on problem-solving and idea generation, and visual management to produce performance dialogue. "The benefits of idea generation were powerfully illustrated at one of the European plants. Simple ideas were used to gain credibility and to show that we were listening to the people. This approach really keeps them involved. If one goes back to some of the earlier plants to ask what the difference is between then and now, the answer 'At last my voice is being heard!' is almost unanimous."

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Visual Management and performance dialogues are also a core DPS TRACC focus. At every facility, visual boards provide a meeting place and a means of reviewing performance, prompting action, building teamwork and accelerating problem-solving. "It gives operators a place where they can communicate with each other across shifts and receive updates on different areas such as the production cycle and the performance of the site or unit." Daily meetings in front of the visual boards allow team leaders and operators to review performance and address inefficiencies, which could be as simple as changing a task that currently requires an unnecessarily long walk.

Team leaders are coached in the different types of dialogue they might have with operators, from an appreciative conversation to more difficult discussions in which participants have to dig deeper to find out why a system or process is not working as well as it could be. This approach also changes what is sometimes referred to as the 'master-victim relationship' and turns it into one focused on collaboration, coaching and teamwork. "You work on the premise that the person is not the problem, so it's shifting the dialogue to a different place – one in which operators can take ownership of continuous improvement." In this spirit, each site takes charge of its own DPS TRACC implementation. "DPS is giving more control to everyone in the organisation. It is less about rules and more about principles and boundaries."

In closing

"Integrating TRACC with DPS has taught us valuable lessons," Pfeiffer added. "Firstly, resist the urge to customise, particularly not until you fully understand the TRACC content. Only then can you channel that energy into upgrading or adapting the content. It is also crucial to establish realistic timelines for implementation and then being able to credibly capture and report gains. This is the ticket to support your resource requests. A strong governance process helps ensure best practices are leveraged, progress is tracked, and the production system is standardised. Finally, leadership involvement, including above-site involvement, is absolutely critical to successful deployments."

TRANSFORMING SIEMENS TRANSZFORMÁTOR KFT.

SIEMENS

CASE STUDY

Carl Loubser, TRACC Consultant

Company background

German-based holding company Siemens AG operates globally, serving numerous business sectors of which the Industrial, Healthcare, and Energy sectors contribute the majority of the group revenue. Siemens Transzformátor Kft. factory – operating in their Energy sector – produces transformers for electrical distribution networks, mostly for European utility companies. It contributed €90 million of Siemens AG's reported 2010 revenue of €76 billion.

It is this production facility, located on Csepel Island in the Danube on the outskirts of Budapest, Hungary, that has embarked on its world class operations journey using TRACC. The factory was founded in 1960 as a state-owned company, and produces oil-immersed and cast resin transformers for use in the domestic and regional markets. In 1996, the company was bought by Siemens, and now operates under the name Siemens Transzformátor Kft.

The situation

The facility produces transformers of two types: cast resin and oil-immersed. There are three plants, of which the metal plant and oil plant have been facilities since 1960. The cast resin plant moved into a new facility in 2009. Most of the equipment has been systematically upgraded and mechanised, but some of the original equipment still remains in operation.

Currently, 250 oil transformers are produced per week, the majority being custom designed and made to client specification. The average order or batch size is less than five. Oil transformers consist of over 200 subcomponents in varying quantities. The majority of the components are machined and assembled on site. Ideally, these subcomponents flow and emerge faultlessly and on time from various manufacturing streams to a final assembly point.

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A total of 46 improvement projects were identified, with estimated savings of €2 million per annum.

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Owing to the variability in product design, varied component requirements, or material and equipment availability, there are many opportunities for the production sequencing to falter, or for small quality incidents to result in significant rework or extended production delays.

Action

The competitive factors for the enterprise are price, lead time and design (performance and durability). Therefore, the key priorities within manufacturing are improving On-time Delivery (OTD), while reducing the cost basis. Improvement in First Pass Yield (FPY) would not only ensure improved durability, but also improve OTD and cost. Improved planning processes and work control would have a significant impact as well as reducing the high levels of WIP. There was a belief that some benefit could be achieved through equipment upgrades, but that the mindset and focus of the employees would play a more significant role.

TRACC was selected as the improvement approach in manufacturing to drive this transformation, with implementation commencing in late 2008. The economic slump in 2009/2010 resulted in pressure on pricing and volumes, and it was decided to escalate the adoption of Six Sigma and to create quick results in not only manufacturing, but also in the support areas, such as customer service, logistics and engineering.

Firstly, management was trained in Six Sigma principles and the need for project mentorship. Green Belt candidates (problem-solving facilitators) were trained and paired to focus on projects delivering implementation results within three months.

Continued on page 8





PRIDE OF YORKSHIRE

PEOPLE ARE THE DRIVING FORCE BEHIND MOLSON COORS' WORLD CLASS MANUFACTURING JOURNEY. THEIR UK SITE, TADCASTER, KNOWS ITS SUCCESS LIES IN GETTING THE VERY BEST OUT OF ITS PEOPLE.

CASE STUDY

First published and adapted from Molson Coors' Cheers Magazine, June 2011.
Words: Tim Gillett
Photos: David Hickes

By any measure, it has been a fantastic couple of years at the Tadcaster Tower brewery. There's been huge progress in terms of the brewery's World Class Manufacturing (WCM) journey as well as impressive production levels. Tadcaster also has the highest quality score in the UK, and is the most productive plant in terms of barrels produced per employee. General manager Paul Whyte, who recently celebrated his first year as general manager of the brewery, puts it all down to Tadcaster's people, vision and values.

Says Paul, "I believe there are three main ingredients in the success of any manufacturing organisation: high people engagement and development; a strong leadership team with the right values and a compelling vision for the future; and the development of WCM processes and techniques that allow the organisation to achieve a sustainable, competitive advantage." The Leading and Managing Change (LMC) TRACC has enabled Tadcaster to redesign communications and share the vision and case for ongoing change as they progress through their WCM journey. "We spend a large proportion of our time focusing on our strategy to lead and manage change through the team at Tadcaster, with a huge emphasis on communication and engagement."

Team engagement is a strong point at Tadcaster: the annual People Survey gave Tadcaster a score of 91% in 2010.

and coaching to achieve these objectives through the WCM journey. The team has delivered outstanding results over the past year, but we know we can improve as we continue our WCM journey. Focusing on this will make us truly world class." The past year has seen Tadcaster implement Foundation TRACCs as well as various Pillar TRACCs including Asset Care, Quality, and Set-up Time Reduction.



Mike Lloyd

EXPERIENCE LEADS THE WAY

Utilities operator Keith Reynolds has been at Tadcaster for 24 years – and still loves his job!

Keith, who is the longest serving engineer on the utilities team, says the department has changed beyond all recognition during that time. "We are now so well trained that we effectively manage ourselves as a team – everyone has a mature, responsible attitude and we all try to set a very high standard." Those high standards are reflected in the spotless boiler house that forms a focal point for the brewery – particularly for visitors.

Paul continues, "We look at the strategy of the global and UK organisation, translate it into local strategy and then build 'bottom up' objectives with the teams, while providing solid development

Their WCM score has subsequently risen to a 3.2 maturity – a sharp improvement on a score of 1.3 when the process began in 2008. (TRACC measures best practice performance against world class assessment criteria up to Stage 5.) Mike Lloyd, WCM change manager, explains that with TRACC's verification system – which measures working practices – a score of 4 is considered extremely good (there are no companies in the UK at level 5). Tadcaster is the first Molson Coors (UK & Ireland) site to reach a level 3. Says Mike, "CCI recently brought representatives from some of its other TRACC clients, such as Heinz, to show them how we do things here. We are very proud of what we've achieved."

Keeping a lid on noise

The Tower Brewery at Tadcaster is surrounded on three sides by housing, so it's imperative that noise is kept to a minimum at all times. Environmental health and safety manager Nick Finnigan has his work cut out.

While the brewery has been in existence longer than the surrounding houses, the team is committed to making sure noise pollution is kept to an absolute minimum to keep the locals onside. Nick says, "We are within World Health Organisation guidelines, but we are aware that there are still noises. These include heavy goods vehicle movements, keg handling sounds, the background noise of cooling towers and equipment noise on the waste water treatment plant 24 hours a day. We've managed to reduce noise levels on site by halting 13 000 vehicle movements a year."

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We were the first UK site to extensively move quality analysis from the quality assurance lab into the production teams where it really counts.

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CASE STUDY

Last year, there were 17 accidents in total, with just 28 days lost; at the time of going to press (Cheers Publication, June 2011), there have been no lost-time accidents in 2011.

Customer and communication is king

The adoption of WCM at Tadcaster has changed priorities in the production process, with Lee Threapleton heading up the challenge.

Lee explains that moving their WCM from Stage 3 towards Stage 4 demands a much deeper understanding of the production process. "This starts with knowing exactly what customers desire from our beers. Then comes the not-so-easy bit – understanding all the causes of process variability, from raw materials to plant and process, and effectively eliminating them. The result – significant reductions in loss and waste – has delighted customers and led to world class efficiencies.

He says, "Tadcaster has been a real pioneer for Molson Coors over the years. For example, we were the first UK site to extensively move quality analysis from the quality assurance lab into the production teams where it really counts. The success of this is purely down to the passion and commitment of everyone across the site." Huge amounts of information relating to health and safety, environment, productivity, quality and training are now posted in the 'Communications Zone' – an area of the brewery frequented by all employees on a regular basis, and right next to the coffee machine. Lee adds, "Everyone knows exactly what is going on, what the targets and strategies are, how we are performing, how we are manned and who needs to be trained. This information is vital to ensuring that Tadcaster delivers and everyone knows what part they play."

Changing attitudes

For the last two years, Chris Frear has been heading up the Changing Attitudes Towards Safety (CATS) project at Tadcaster.

The CATS initiative is indicative of Tadcaster's organisation-wide focus on health and safety. The Environment, Health & Safety (EHS) TRACC has supported this focus through contractor partnering and use of EHS measures in team meetings. Safety being paramount, it's usually the first agenda item in these team meetings.

The initiative is based on observations within the workplace – on a peer-to-peer basis – with 60 per cent of staff now qualified as observers and able to carry out health and safety checks on their colleagues. Chris says, "It was a difficult process to start, but everyone wants to work in a safe environment and we now have a culture aimed at keeping everyone safe."

As ever, the proof of the pudding is in the eating – and the result of Chris' work speaks for itself. In 2003, there were 47 minor accidents at Tadcaster, with eight lost-time accidents and a total of 260 days lost.



MOLSON Coors

RESULTS:

People Engagement Survey: 91% in 2010

TRACC Maturity Growth from 2008-2011: 1.3–3.2

EHS – Noise Pollution: Reduced noise levels on site by halting 13 000 vehicle movements a year

EHS – Safety

2003: 47 minor accidents, with 8 lost-time accidents, total of 260 days lost

2010: 17 accidents in total, with 28 days lost

2011: at the time of going to press (Cheers Publication, June 2011) – no lost-time accidents

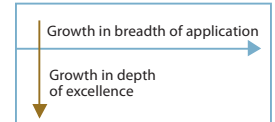
RESULTS FROM A NEW CONTINUOUS IMPROVEMENT BENCHMARKING TOOL: INTEGRATIVE IMPROVEMENT SYSTEM DIAGNOSTIC (iiSd)

INTEGRATIVE PERFORMANCE IMPROVEMENT IS THE NEW APPROACH TO SUSTAINABLE OPERATIONS EXCELLENCE. WITHOUT AN INTEGRATIVE APPROACH, PERFORMANCE IMPROVEMENT USING METHODOLOGIES SUCH AS LEAN AND SIX SIGMA, ARE NOT SUSTAINABLE.

Dr. Dino Petrarolo — Leading Continuous Improvement Authority, CCI



- A three-tiered system of management principles, operating systems and tools



The Integrative Improvement System Diagnostic (iiSd) provides an assessment across nine themes within a five-stage maturity framework ranging from Stage 1: 'shallow' (not defined) to Stage 5: an advanced learning network. This depth and breadth nature of the assessment also implies that the performance of the end-to-end supply chain will evolve and improve sustainably over time as maturity levels increase. The breadth of the improvement thus evolves from disparate supply chain entities and/or business functions to an extending supply chain that strives to create a demand-driven value network.

The Integrative Improvement System Diagnostic (iiSd) assesses your organisation's maturity in terms of this new approach.

TRACC's iiSd is confidential and feedback is provided in a benchmarked format.

Introduction

Organisations have over the years implemented improvement initiatives, many of which were applied individually with no real, lasting improvement. Approaches such as quality control, team activities, set-up time reduction and even Six Sigma and Lean techniques by themselves seldom changed the fundamental constitution or capability of an organisation. Executives of leading international companies have come to realise that an integrated approach is required – one that focuses on improving more than one factor at a time, by recognising both the importance of synergy between different improvement efforts and the need for commitment at all levels of the organisation to achieve total, system-wide improvement. Organisations that have nevertheless benefited from mostly single-focused initiatives or approaches, can further enhance their improvement efforts by consolidating these into an overarching system to ensure a sustainable journey.

The TRACC approach offers a way to look at the strength of organisations and to improve it systematically by focusing on different, but interrelated, organisational aspects. In order to provide interested companies with an initial understanding of their capability or maturity, CCI has developed a confidential, online assessment tool, namely the Integrative Improvement System Diagnostic (iiSd). It is introduced as an important part of the TRACC philosophy in determining an initial status of the level of integrative and/or systemic improvement capability.

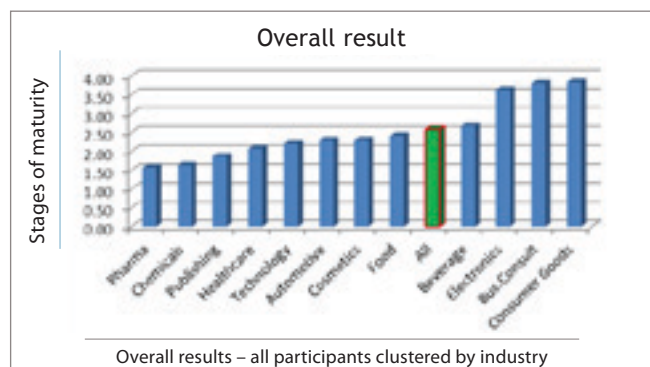
The assessment has been designed to evaluate an organisation's ability to build and sustain an operations excellence culture, by focusing on three key structural components that should effectively drive the transformation process:

- Maturity and process focus – a management system with a three to five year execution 'road map' that must be capable of measuring the stage of maturity for all process areas
- Functional integration – the extent to which the organisation is designed around processes, products and customers

iiSd themes with short descriptors		Stages of maturity
1. Strategy	Creating an organisational vision based on management principles for ongoing improvement	Disparate/Shallow – no continuous improvement Expert-based Functional Excellence Integrated improvement System Learning Network
2. Standardisation	Standardising the framework and approach for the improvement process	
3. Integration	Integration of processes and the improvement approach across the supply chain	
4. Transformation	Organisational development and change management approach to transformation that builds capability	
5. Systematisation	Formalisation or codification of practices, procedures, tools and techniques	
6. Training and Development	Building internal capability through competence development processes	
7. Roles and Responsibilities	Deliberate and focused roles and responsibilities to drive improvement	
8. Knowledge Management	Sharing of implementation knowledge and learning	
9. Results and Tracking	Measuring and tracking organisational improvement	

Initial findings

Findings (unverified at this stage) from a sample of companies that have volunteered to participate in this assessment are shown below.



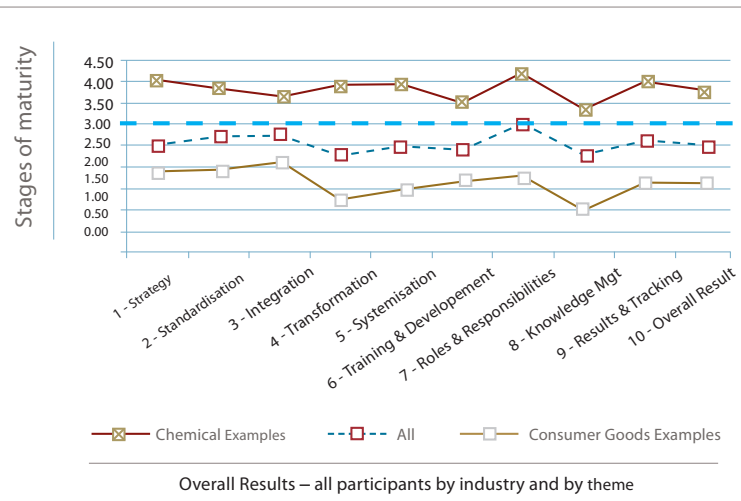
The assessment has been designed to evaluate an organisation's ability to build and sustain an operations excellence culture.

As expected, there is a range of results from 1.57 to 4.69, with consumer packaged goods companies dominating the top quartile.

Although the number of companies in the sample is relatively small, the average result of the sample of companies is 2.58. Overall, the Roles and Responsibilities theme has the highest average of 3.01, with the Transformation theme having the lowest average of 2.28 (across the entire sample of participants).

- of products and strategies for its clients
- It provides an assessment of the progress being made within client organisations

Note: The TRACC team will not make iiSd results available online for competitors or colleagues to access. The results are treated as confidential and will be emailed directly to the recipient.



- Note: iiSd Stages of maturity**
- Stage 1: No Continuous Improvement
 - Stage 2: Expert-based
 - Stage 3: Functional Excellence
 - Stage 4: Integrative Improvement System
 - Stage 5: Learning Network

Please visit www.etracc.net to complete your free online iiSd assessment.

As improvement grows in depth and breadth, one would expect the relative theme scores to converge towards the average, thereby confirming the 'integration' hypothesis for successful organisations.

Concluding remarks

The Integrative Improvement System Diagnostic (iiSd) is a valuable tool for any organisation wishing to assess their status or CI maturity against a sustainable operations excellence framework. It has the following specific benefits:

- It provides organisations with a vision of where they are on their CI journey and enables them to measure themselves against world class CI maturity levels
- It provides executive leaders in organisations with an initial benchmark and input for their strategic 'case for change' for adopting an integrated improvement process (TRACC)
- It contributes to TRACC's database of organisations and industries, thereby assisting with the ongoing improvement



SIEMENS

CASE STUDY

TRANSFORMING SIEMENS TRANSZFORMÁTOR KFT. *continued from page 3*

Thirteen projects were identified with targeted results of €500 000 p.a. Upon completion of their projects, each candidate had to complete a second project (alone or in pairs) to become accredited as a Green Belt. Some of the Green Belts were then selected as Black Belt candidates (problem-solving experts) to receive training and to implement projects. These projects would typically be more complex, be of longer duration, and span multiple departments.

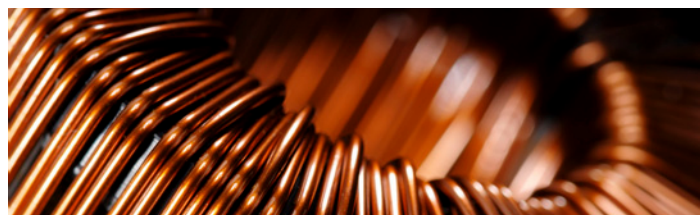
Results

An additional group of Green Belts was trained, and a new project identified. A total of 46 improvement projects were identified, with estimated savings of €2 million p.a. These projects ranged in focus, including production planning, streamlining production flow in key bottleneck areas, implementing kanban systems, optimising transportation, improving quality in key impact areas, material yield, recoveries from suppliers due to rejected material, improving customer service lead times, consistency, and communication. By the first quarter of 2010, savings were at €1.2 million. Subsequently, further savings have been achieved and additional projects are being identified continually.

At the same time as the training, the TRACC foundations were being implemented in the key production areas. Training was intensified and the operations focus was realigned to the business priorities. TRACC maturity progress has been slow, but consistent. This, combined with the Six Sigma projects, has resulted in efficiency (value adding time) doubling in certain sections.

Success has resulted from the balance between project-driven improvements and the support and commitment from the operational teams. This proactive and consistent approach to

A year-on-year comparison (09/10) in the oil, resin and metal workshops indicates that output has doubled using the same equipment and working capital base, and that labour productivity has increased by 25%.



identifying projects, driving them to conclusion and sustaining the results is the foundation for the future. However, recognition that there are more projects, with greater potential, is the key.

TRACC Consultant Carl Loubser says, “We wish to congratulate the team in Budapest on the steady progress that is being made. It is a pleasure to work with them and we wish them well for the future.”



Some of the most important things in management are consequence, traceability and control. If we want to improve, these are even more important. digiTRACC is the tool which provides it in a very visible way.

It is like a compass to save time, to get where we wanted to get in time.

Zoltán Szigeti, Production Director, Siemens Zrt. Transformer Division — Hungary, Budapest



RESULTS:

- 46 Improvement projects were identified by Six Sigma teams
- 2009-2010 comparison shows doubled output at two of the workshops
- €1.2 million saving by the first quarter of 2010
- Labour productivity increased by 25%