

Safer Leazonia Quarry

Upgraded Whilst Fully Operational



Left: Tertiary and Road Stone Crusher Plant

Above: An operator at the new touch screen

Right: New cable rack installed

IRITRON Pty Ltd has a long working relationship with PPC's Leazonia Quarry. In 2005, we designed the electrical and instrumentation plans for their Super Sand Plant and built a new Motor Control Centre (MCC) for them. In 2008 the same type of project was done on the new Primary and Secondary Crushing Plants. At the end of February 2010, IRITRON completed their latest project for PPC, upgrading the Tertiary Road Stone Plant and the Old Primary Sand Plant. The biggest challenge was that the installation of the new cable racking, cables, local isolator panels, safety instrumentation, pull ropes etc. all had to happen without impacting on production and with both plants in operation.

PPC, in their commitment to safety and continuous process improvement, were on a drive to increase and stabilise their production and adhere to the relevant Department of Minerals and Energy (DME) and Mine Health and Safety Act (MHSA) standards. IRITRON was successful with their tender and was appointed to design the electrical and instrumentation solution to upgrade

both crushing plants simultaneously. This included the drawing up of detailed motor lists in order to design motor starter schematics, manufacturing the MCC's, doing the calculation of voltage drops and producing cable schedules and a detailed instrumentation design. IRITRON also designed the control system, including the PLC programming and SCADA design / programming. We also redesigned the protection on the two cone crushers by utilising new sensitive instrumentation directly monitored by the PLC.

IRITRON added value to the Quarry's operations by proposing to install new MCC's complete with PLC's to control all the processes remotely via new Wonderware InTouch version 10.1 SCADA systems. By installing electronic motor controllers, soft starters and variable speed drives (VSD's) to operate all the electrical motors and subsystems for each plant, this was achieved. We also introduced safety sirens, pull ropes, emergency stops, local motor isolators and various measuring and protection instrumentation to increase the safe

operation of the plants. Lastly, we installed a PLC to Wonderware touch-panel control system that is based on a visual representation of the plant.

The old operator stations relied on push-button start signals hardwired to contactors and outdated overloads that were interlocked in order to facilitate manual sequence starting. Although this was solid engineering practise for years, conducting a faultfinding exercise without drawings on such a system is a time consuming and frustrating exercise. The new Wonderware InTouch SCADA system allows the plant operator to sequence-start the whole plant with one touch to the screen. We added safety operator icons that remind the operator to check on specific mechanical conditions before a relevant sequence can resume.

The operator gets real-time information on equipment status, safety interlocks, stockpile and process water levels and electrical drive current levels from the instrumentation in the field. This data is being used to prevent overloading

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of equipment or as an early warning of possible equipment failure. We worked in close co-operation with the client to ensure minimal down time and maximum plant availability. Doing installation work on a production plant that is still running is a difficult and dangerous operation. With a well managed construction crew and excellent co-operation from the PPC team, we overcame all minor challenges which occurred.

The IRITRON and PPC engineers were innovative when they decided to throw out the existing cone crusher lubrication panels and introduce new specific instrumentation for the monitoring and protection of the crushers. Flow switches were installed for oil- and cooling water flow monitoring. Pressure switches were installed to monitor differential oil pressures, which makes it possible to indicate blocked oil filters. Temperature sensors were used to prevent a cold-lubrication start-up and to monitor return oil temperature. This, added to the fact that the crusher motors are being driven by intelligent bypass-enabled soft starters, gives the client the piece of mind that their most expensive machines are well taken care of.



Hannes du Plessis (Electrician at Leazonia Quarry) and Gideon Roux (IRITRON) at the new MMC for the Tertiary and Roadstone Crusher Plant

Felix Shezi, the PPC Group Electrical Engineer was very satisfied with the end result and he gave the team full marks in our Customer Satisfaction Report. Well done to Gideon Roux (Team leader and Electrical Design Engineer), Adrian Cloete (Engineering Manager), Danie Smit (PLC Systems Engineer), Renier Greyvenstein (SCADA Systems Engineer), Etienne van Dyk (Instrumentation Design Engineer) and Edgar Chauke (Electrical Engineer in Training) on a well executed project.

Foskor Expansion at New South Pit



Foskor is in the process of expanding its operation at its Phosphate mine in Phalaborwa. Currently the company “processes Pyroxenite from the north and south pits and reclaims foskorite from depleting surface stockpiles, all of which contain phosphate. The phosphate rock is used to produce phosphoric acid for use in fertilisers, animal feed and certain preservatives.” The new crusher which forms part of the expansion project “will be able to handle a throughput of over four thousand tons per hour and will feed a 3.4 km overland conveyor linking it to the existing processing plant.” (Taken from “Massive crusher for Foskor”, Mining Review Africa, issue 6, 2007, pg 64) IRITRON designed a cutting edge Control System for Foskor on this project to meet with their in-house standards. IRITRON’s portion of the project will take about two years to complete. The system designed closes the gap between all the drawings, the electrical connections in the field, the software and the SCADA system. The MCC is also being installed by IRITRON.

When asked “What was special about this project?” Allen Heyneke, the IRITRON team leader, said that “the level of integration from the P&ID which runs right through every facet

of engineering, reached new heights”. This was achieved by utilisation of state of the art software to generate design outputs which in the past was mainly done by hand on most operation of this nature. This greatly improves the completeness of the data packs.

The system proposed encompasses; a Unity Schneider Quantum PLC operated by Adroit 6, which is upgraded to version 7 software. Ninety six motor protection units will be used and data from two hundred analogue and six hundred digital inputs will be fed into the control system. The system will feed information to sixty analogue and two hundred and fifty digital outputs, operating fourteen variable speed drives which in turn will coordinate seven conveyors. This includes an overland conveyor with a complete length of 3.4 km’s. Custom code blocks were created for all IO types and for DOL and VSD drives within the PLC. The Adroit SCADA interface was designed with a new in depth focus on future maintainability and operator ergonomics. It was made responsive enough to avoid operators repeating inputs, and inputs are immediately acknowledged on screen, so operators know their control requests are being processed by the PLC. IRITRON uses in-house created tools to create Unity PLC code and Adroit agent instances and scan addresses for all instruments on I/O and all motors from the intelligent P&IDs generated in Autocad.

The team who have been working hard to create all of this for our client are Adrian Cloete (Engineering Manager), Allen Heyneke, (Project Team Leader), Chris Bosch (System Engineer), Eric Jansen van Vuuren (CAD operator), Erik Weyer (Electrical Designer), Herman van Deventer (Electrical Designer), Reghardt Marcus (Instrumentation Designer) and Chris Botes (Instrumentation Designer).

Wonderware System Integrator Awards



*Above: Alwyn Rautenbach saying thanks
Right: Teemu Tunkelo, President of Europe, Russia and Africa (EURA) Invensys Operations Management, Johann Pienaar, Alwyn Rautenbach and Deon van Aardt*



The following System Integrator selection is based exclusively on turnover conducted with Wonderware over the past year (March 2009 to Feb 2010). Top system integrator is Control Systems Integration, Runner-up, Quad Automation and in third place - IRITRON.

ESASA Membership Gained

Koos Vorster received the IRITRON membership certificate from the Electrical Switchgear Association of South Africa (ESASA) on 17 February 2010. Membership of this organisation helps to instill confidence in prospective customers providing the assurance that IRITRON complies with the high standards and code of ethics which ESASA represents in the South African market place.

The mission of ESASA is: "To ensure broad industry participation so that users of low and medium voltage, electrical switchgear, controlgear and assemblies, and the general public in South Africa, are offered the safest and most advanced technologies possible, and the widest choice of products and solutions that meet both local and international standards.

The objective of ESASA is to be a responsible, open, democratic, well organised and effective body, to represent the needs and to lobby for the rights of its members and their customers, and to participate in a constructive way to build the industry in the best interests of South Africa. The Association actively promotes the use of both local and international standards, without compromising the applicability of the latter.

The organisation is a participating member of several SABS committees and working groups, is a member of the SA Electro-technical Sector Board and is a member of the Electrical Standards Generating Body."



The Chairman of ESASA, Dudley Miller, presents the manufacturing member certificate to Koos Vorster Iritron's Manufacturing Manager

IRITRON is a manufacturing member of ESASA whose members are "South African natural and legal persona who in the sole opinion of ESASA have a reputable and established track record in the South African switchgear market, and who manufacture, import or distribute switchgear and controlgear components, and/or switchgear and controlgear assemblies."

Getting to know you

Bernard Meyer

What position will you be working in at IRITRON?

System Engineer

What is your date and place of birth?

20 May 1969, Welkom

What is your Star sign?

Taurus

Where did you grow up?

Welkom

Are you married? If so who is your wife? Tell us a little about her please.

Yes, I'm married to Sonja, your typical blond, blue eyed German lady, although she was born and raised in Pretoria

Do you have any children?

Yes, A daughter called Michelle, she is almost nine years old.

Do you have any pets?

3 Dogs and 2 cats.

Do you do a sport or have an interesting hobby? Why is it such fun to do?

I collect and restore air cooled Volkswagens because it is very satisfying to take something old and restore it back to an almost new condition.

What is your favourite sport to watch?

Motor sport

Which sport so you like to do? Table tennis

What kind of holidays do you enjoy going on?

Camping holidays

If you could choose the menu for tonight's meal, what would you like to eat?



Anything which can be cooked over the coals.

Your favourite restaurant is?

Panarottis

What are you passionate about?

My family and my hobby

What do you dislike?

People who complain all the time

I am most afraid of?

Dying before I've done all those things that I want to do.

What dreams do you have for the future?

To be successful and happy in both my personal and my professional life.

What is the best advice you have ever received?

You should listen more than you talk.

Rabie Marx

What position will you be working in at IRITRON?

Lead Electrical Engineer

What is your date and place of birth?

22 May 1958. Born and bred in Mosselbay/George.

What is your star sign?

Gemini

Are you married? If so who is your wife?

Tell us a little about her please.

Yes, to Hannelie, She is a housewife who has an afternoon post at an after care organisation.

Do you have any children? What are their names and how old are they?

Yes, Janine (17) and Lizaan (15)

Do you have any pets? Ceazar, the Rottweiler

Do you do a sport or have an interesting hobby?

I'm interested in computers and very involved in my children's activities; My children sing, one daughter does modelling and both do different styles of karate at different clubs. The tournaments sometimes take a long time and it can become a little tedious.

What is your favourite sport to watch? Rugby, Bulle, Loftus

Which sport do you like to do?

In the past I played some squash but nowadays I'm more successful with watching the game.

What kind of holidays do you enjoy going on?

The unexpected, unplanned ones are the most fun.

If you could choose the menu for tonight's meal, what would you like to eat?

I'd enjoy a braai together with some relaxed and fun people who don't have many issues.

Your favourite restaurant is?

I don't have one, as long as the food is well prepared.

What are you passionate about? I love music.

What do you dislike?

When people talk about things as if they are experts on the topic but they actually know nothing about it.

What are you most afraid of?

Making a mountain out of a molehill, No fears, just things I'm careful with.

What is the best advice you have ever received?

Learn when it is the time to keep quiet.

What is the best advice you can give?

Do today what you would have done, if you had known that tomorrow you would no longer be here.



Getting to know you

Adriaan Kloppers

What position will you be working in at IRITRON?

Director IRITRON Services

Your full name is?

Burgert Adriaan Kloppers, better known as Adriaan

What is your date and place of birth?

20 September 1952, in Pretoria

What is your star sign?

Virgo

Where did you grow up?

Rustenburg

Are you married? If so, who is your wife? Tell us a little about her please.

I'm married to Louise. She is an Irish lassie and works in Total Quality Management consultancy.

Do you have any children?

Riaan (26), Barry (23) and Daleen (21)

Do you have any pets and what are they called:

Dogs, Vega and Tessie

Do you do a sport or have an interesting hobby? Why is it such fun to do?

I play tennis and golf and find them very relaxing activities.

What is your favourite sport to watch?

Rugby

Which sport would you have liked to do when you were young?

Ice hockey

What kind of holidays do you enjoy going on?

Trips abroad

If you could choose the menu for tonight's meal, what would you like to eat?

Braaivleis and pap

What is your favourite restaurant?

LM in the East

What do you dislike?

People who are not what they seem to be.

What are you most afraid of?

Losing one of my family members.

What dreams do you have for the future?

To make IRITRON the best it can be.

What is the best advice received you have ever received?

Always be yourself.

Why did you decide to join IRITRON?

I perceive the IRITRON group of companies to have remarkable potential to grow and become a major force in the industry it is involved in. We live in exciting times in South Africa and it is up to us to make the country the best it can be. To be able to offer the little expertise I acquired over more than thirty years in management - or rather leadership - is exciting and I trust I can contribute to the legend this group of companies can become.

What are you passionate about?

Servant Leadership - to make people the best they can be.

What is Servant Leadership all about?

Servant Leadership is a phenomenon that is exploding worldwide that deals with leadership based on authority earned. This stands in stark contrast to management based on power alone. This style of leadership demands that you build authority and people will follow you because you inspire them along the lines of: "I'll do it for you."

IRITRON services shall:

Strive to give an optimal supporting service to all the companies in the group in the following areas:

- Strategic and statistical planning
- Company structuring and company statutory governance
- Human relations, including recruitment and appointment of staff, and staff well-being
- Discipline in the workplace and the responsibility of supervisors in maintaining discipline
- Training of staff in required skills and development of staff for future responsibilities
- Supply chain management, including procurement and management of stock
- Marketing, promotions and advertising
- IT support
- Quality assurance management

Activities of Addiction Action Campaign

A significant number of IRITRON employees contribute to AAC Addiction Action Campaign (AAC) on a monthly basis. InSite enquired from the AAC's management on progress made during the past four months. Warren Whitfield replied as follows: "Since the launch of the SHOUT campaign, AAC have tried consistently to contact the organisation who has been instrumental in organising this campaign. AAC wish to discuss with them solutions to 50% of SA's crime which is caused by addiction but with no result. Unfortunately, whilst SHOUT has done a great job of creating a hype, it has no solutions to address the issues that create crime, and SHOUT is being severely criticised for it.

SHOUT gave us a good idea though. We are currently planning the "Open your eyes" campaign. With the same strategy, we wish to unite artists, models, politicians and ordinary South Africans behind the cause of fighting addiction in SA. The song we are planning to use is called "Iris" performed by The Goo Goo Dolls, and emails and requests have gone out to all the celebs in question. The big difference though between our campaign and that of SHOUT, is that the AAC actually has a plan. So far the response from artists and our record company has been good, but there is much more to do, in order to pull it off.

We changed our policy about accepting funds from companies that profit from addiction. Originally, this policy was in place because we did not want to feel obligated. With this in mind, we approached Adcock Ingram to provide funding for treatment costs of people who were addicted. So far they have made us a grant. At this stage we are unsure of the amount and timing, but we believe that this will open the doors for other pharmaceutical companies to follow.

Achievements:

1. We have convinced Adcock Ingram not to bring a new drug to the market. Adcock's Marketing Manager Colin

Sheen wrote, "Also further to our previous discussions, we will in all likelihood decline the opportunity of commercialising oxycodone on the South African market. Supporting your position, and based on current research, we are greatly concerned with the risks and addiction potential that are associated with the use of oxycodone, especially considering the vast negative reports emanating from the US regarding addiction, abuse of the molecule, crime and fatal overdoses that have all been reported as a result of its



use." This effort is a huge success for us and will result in many lives being saved as well as limit the expansion of addiction in the pharmaceuticals sector.

2. We have secured a grant towards a treatment fund from Adcock Ingram.

3. After speaking to Phillip Dexter of COPE in February, we were able to get their endorsement. This is a big step towards uniting different political parties on the issue of addiction.

4. The last week's You Magazine contains comments and suggestions from the AAC on addiction to pharmaceuticals in an article on cough mixture addiction.

5. We attended the Gambling Review Board's hearing in Sandton and challenged the selling of alcohol to people who are gambling. We were met with no resistance and the commission asked for more details to justify no drinking while gambling. This is a huge victory.

6. We also challenged the illegal trading of online casinos in South Africa to the gambling review board and exposed the underhanded dealings of Silversands Casino and BWin Online betting. All online casinos in SA are illegal yet they continue to trade and funds leave the country. The board was silent on our resistance, but SAPA were there and exposed it in the press.

7. Lastly we exposed the illegal removal of homeless people from the streets of SA and their illegal detention in camps in the government's bid to "clean up" the streets for the 2010 FIFA World Cup. My articles were published in the Mirror (UK), Denmark and Agence France Presse sent a journalist from France to interview me and cover the story. Since then, the illegal removals have not continued. We originally challenged this issue because half of the people who are homeless are on the street because of an addiction. Removing them from the street temporarily without addressing their addiction would be a waste of time and a human rights violation.

Our goals for the next quarter are to:

- Establish and produce The AAC "Open your eyes" campaign.
- Increase membership.
- Exploit Adcock's giving by challenging their competitors to give to our treatment fund as well.
- Increase endorsements.
- Launch our High Court appeal on the constitutionality of profiting from people who are addicted. This will be done later in the year."

In parting Warren Whitfield at the AAC said: "Please convey our sincere gratitude to your staff who continue to support the work we do."



The Starbucks Experience

Is it, in today's socio-economic environment, still possible (or fashionable) to have a passion and enthusiasm for the company you work for?

Or did the world of WORK become the opposite of what John F Kennedy demanded from the American people in his famous quote: "Don't ask what your country (your company) can do for you, but what you can do for your country (your company)"

Howard Schultz, founder of Starbucks Coffee not only talks about working for the company as an experience not to be missed out on, but as CEO his executive team and himself also live and breathe this philosophy.

But what is Starbucks coffee?

Starbucks Coffee is no more than a chain of coffee shops selling coffee and related products in the USA and across the globe. However, from a humble start in 1971 (one outlet in Seattle Washington), Starbucks grew to a worldwide conglomerate, with an outlet most likely not more than 5 miles from the home or office of any urban American. Since Starbucks went public in 1992, the value of its shares rose by a staggering 5 000% within 16 years! Even today Starbucks opens 5 new outlets **per day**, 365 days per year. It has consistently been recognised by Fortune Magazine as one of America's "most admired" companies and best Employer. In 2009, Starbucks was number 26 on this worldwide list, above multi nationals such as Exxon Mobil (28), Hewlett Packard (32), Nestle (34) and Volkswagen (50)

How did a mere retailer of coffee (a commodity anyone can buy for a fraction of the Starbucks price) become a Wall Street Cinderella story of such magnitude?

How did Starbucks change the concept of how to do business, the American culture (from tea drinkers to coffee) and affected cultures worldwide? Simple, really. It based its whole philosophy on 5 easy principles: Make it your own, Everything matters, Surprise and delight, Embrace resistance, Leave your mark

Make it your own

"This is the true joy of life, the being used up for a purpose recognised by you as



a mighty one; being a force of nature instead of a feverish, selfish little clot of ailments and grievances, complaining that the world will not devote itself to making you happy"
George Bernard Shaw

Have you made IRITRON your own?

Everything matters

"Too often we underestimate the power of a touch, a smile, a kind word, a listening

ear, an honest compliment, or the smallest act of caring, all of which have the potential to turn a life around"
Leo Buscaglia

Are you acting towards clients, co-workers, subordinates, and leadership in this manner?

Surprise and delight

"I slept and dreamt that life was joy. I awoke and saw that life was service. I acted and behold, service was joy" Rabindranath Tagore

Are you serving those who report to you, with a vision to "make them the best they can be"?

Embrace resistance

"Don't mind criticism. If it is untrue, disregard it; if it is unfair, refrain from irritation or reaction; if it is ignorant, smile; if it is justified, it is not criticism – learn from it" Unknown

Are you embracing criticism as a learning experience?

Leave your mark

"How wonderful it is that nobody need wait a single moment before starting to improve yourself – and the world"
Anne Franke

Are you focused on making IRITRON a better place to work in, or are you waiting to see what IRITRON can do for you?

Starbucks embraces these principles and its employees (literally thousands of them across the globe) are living it. This made Starbucks the greatest retail coffee merchant on the planet.

Can we learn from it, follow its example, grow stronger and become an even bigger force in our industry?
The answer to this is a simple YES.

Adriaan Kloppers

Note: More on Starbucks in the next issue of InSite

Passion for Polocrosse



Victorious Dragons vs Richmond, a division final played at Willem Prinsloo, Rayton

Brad Keyter, from Project Planning has been playing Polocrosse for about four years now. As explained on the SA Polocrosse website; "Polocrosse is a combination of elements of the ancient game of Polo, which is believed to have originated in Persia, and the American Indian game of lacrosse. This exciting team sport is played on horseback between teams of six players each, with each team divided into two sections of three players. An "Attack" player (or No.1), aims to score goals, the "Centre" player (No.2), acts as both an offensive and defensive player, and the "Defence"

player (No.3), ultimately tries to prevent the opposing team's No.1 from scoring.

This is not your average city slicker's hobby. There are about five hundred South African's playing this game, mostly in farming communities. Weekend tournaments consist of two games played on the Saturday and one on the Sunday. The braai and social on the Saturday evening are highlights for both the players and the people of the local communities. To play this game is similar to playing rugby on horseback; it is fast paced, exhilarating and exciting

to watch. To be able to play you need a helmet, boots, racket and of course a horse. Players use mostly slighter size thoroughbred horses (14.2-15.3 hands) that need to be in good physical condition. A daily ten kilometre trot is an important part of achieving the right fitness levels and stick and ball work in the arena helps to improve dexterity for the game.

Brad plays for the Dragons in Pretoria who are sponsored by Capicol Property Developers. The next tournament Brad will be playing in, is on 8/9 May, in Rayton. Way to go Brad!



Dragons vs Nyati from Ladysmith going into a lineout



Brad on Blue at Free State Champs, Tweespruit



Wild stick swinging deflecting the ball to the back of the lineout



Richmond/ Umhlali, SA Club Champs, Noordsberg