

# PtSA News

Newsletter of the Production Technologies Association of South Africa

Issue 19— March / April 2022

## Technologies for Excellence in the die and mould making industry

Extracts from the recent ISTMA Webinar which was attended by PtSA members

Successful Die & mouldmaking companies maintain a supplier network and thus increase their own process impact force.

The most expensive cost item in the production of a mould is **CNC machining (AVG 35-45%)**.

Target: Reduce machining costs by bringing the production into automated Production Cells 24/7.



### Implement Efficient Technology Chains



### Productivity is Key



Importance of 5-axis and high-speed machines

### Use of Industry 4.0 (4IR)

Planning, Preparation, Production, Monitoring, Service



### Visualisation of machine and process data



Don't miss out on important industry events!  
Please visit [www.istma.org](http://www.istma.org) for upcoming events.

The dawn that seemed so far away is approaching, slowly life is getting back to normal and that dark clouds of the COVID-19 pandemic are giving way to the resilient light of hope and dogged determination of the entrepreneurial spirit. There is the small matter, seemingly growing bigger every day, of the Russo-Ukrainian conflict that might change the global geo-economic order but overall, the world is opening up.



Once again, the conflict reminded us of how as Africa, we remain vulnerable to global events with unprecedented fuel increases and an expected food shortage. This again has disrupted the post pandemic rising that we were beginning to see.

We remain committed to the rehabilitation of the TDM sector in South Africa and working with our kith and kin on the continent. One of the cornerstones of this rehabilitation and growth is updated and upgraded skills development. No economy can grow without a skilled population. In this regard **we are very pleased to announce that PtSA has secured funding for another intake of Toolmaking Apprentices, and also funding to assist a number of toolmaking companies to improve their capabilities and efficiencies and thus their support for the growth and development of the manufacturing sector.** We are also pleased that a number of our graduates from the PtSA Apprenticeship Programme are making positive contributions to the tooling industry in South Africa and that our Programme is alleviating some of the shortages of skills in the industry.

As we welcome new recruits this year, we will also release into the market our first cohort of Tooling Machinists. We wish them well and will be liaising with industry on their performance and contribution. If the workplace-based training reports are anything to go by, this will once again be a major milestone in our quest to supply our members and constituency with fully equipped plug and play skills.

A number of companies have recently joined PtSA; we welcome them and we stand ready to offer the support and assistance to grow their network and their businesses. Through our growing international connections and through ISTMA we are striving to be a driving force in the growth of the African continent for the benefit of the whole region. The growth in our membership gives the Association the required voice to be able to influence governmental policies in the region, and indeed on a global scale.

I look forward to interacting with you, our members, during visits to companies, at our networking sessions, during our general meetings and at our planned PtSA Conference.

- Tapiwa ([tapiwas@ptsa.co.za](mailto:tapiwas@ptsa.co.za))

## Comments from the COO - John McEwan

**We were recently requested to assist a local plastics converting company with their decision-making process of whether or not to outsource the manufacture of their tooling to overseas.**



In trying to assist the company we referred them to our webinar entitled "Tooling and its Pivotal Role in the Growth and Development in the South African Manufacturing Sector", in which the following statement was made:

**"when a country's manufacturing sector outsources its tooling, not only is it disclosing the quality of the product being produced, but it is also allowing competitive nations to have detailed insight into how efficient your own production processes are".**

More specifically, the outsourcing of the manufacture of tooling can result in the disclosure of a company's IP, and thus reduce their competitive advantage.

Regardless of the final decisions of companies with regards to the sourcing of their tooling, we encourage companies to take all factors into consideration, and in particular the potential effects on supply chains such as we have recently seen as a result of the pandemic, shipping constraints and perhaps the current war in Ukraine.

**We again want to encourage our local toolmaking companies, whether they are in-house toolrooms or stand-alone toolrooms, to make use of the Enterprise Development Services offered by PtSA to assist toolrooms to become more competitive and thus increase the localisation possibilities for the manufacture of tooling.**

- John ([johnmc@ptsa.co.za](mailto:johnmc@ptsa.co.za))

ISTMA (International Special Tooling and Machining Association) recently held a Webinar entitled Technology Excellence for Die and Mould industry.

PtSA Western Cape made use of this opportunity to host a mini Networking Event, with PtSA members and guests viewing the webinar on our big screen at our facilities in Rosenpark, Cape Town.

The event, which was sponsored by Retecon, was the first physical networking event held by PtSA since the start of the pandemic, and was well-attended. PtSA will continue to host physical Networking Events in all the main regions to give PtSA members and guests the opportunity to network and matchmake, and also to socialise.

The Webinar was very informative with DMG MORI giving a virtual presentation covering developments in technology for the mould and die industry, including additive manufacturing developments specifically for this industry.

DMG MORI highlighted a number of factors that it considers are vital for the future of the tooling industry.



### Success factor 1: Supplier network

- Successful toolmaking companies develop and maintain a supplier network which increases and optimises their own manufacturing capabilities.

### Success factor 2: Industrialisation of the Internal value Chain

- Research has shown that the most expensive cost item in the manufacture of a mould is CNC Machining (Accounting for 35% to 45% of cost on average).
- Reduce the machining costs by automating the machining process and by utilising the time 24/7.

#### Further factors to consider:

- ◇ **Productivity is Key**—importance of 5 axis and high speed machines for improved productivity
- ◇ **Automation and lean manufacturing**—increase the productive time available for manufacturing
- ◇ **Process safety**—to enable automation, use standard methods for safe, precise and fast work-piece clamping.

### Success factor 3: Master Efficient Technology Chains

- Management of the production technologies such as:
  - ◇ 3D digitisation
  - ◇ Evaluation of alternative technologies
  - ◇ Automatic CNC Programme generation

### Success factor 4: Use of Industry 4.0

- Production Planning—using fully integrated systems
- Preparation—CAD/CAM systems and simulations
- Production—use of latest technologies
- Monitoring—detect, analyse and avoid downtime
- Service—continuous service and maintenance optimisation

**Please contact the PtSA office for more information regarding the ISTMA Webinar.**

# PtSA members receive Membership Certificates

PtSA has recently proudly handed over a number of membership certificates to members.



Andrew White (MD of **S4 Integration**) and Ettiene Gerwel receiving the company's PtSA membership certificate from Bronwyn Daniels, the PtSA Eastern Cape Industry Liaison Officer.



Ruann Grobbelaar, PtSA Gauteng Industry Liaison Officer, handing over **HDS Engineering's** membership certificate to Stoney Steenkamp.



Toni da Mota, Gauteng Industry Liaison Officer handing over the PtSA membership certificate to Wynand Wium at **Re-tecon**.

Dr. Hein Moller with **Tiziri Advanced Manufacturing Technologies'** PtSA membership certificate.



Stephan Aucamp from **Injection Technik** receiving the company's PtSA membership certificate from Bronwyn.



Gerald Stark from **Cape Metal Pressings** receiving his company's membership certificate from Vincent Nel.



Mavrin Lucas received the PtSA membership certificate from Toni on behalf of **Con-verttek**.



Eddie Goliath (Department Manager Tooling), Reon Petersen (Head of Mould Making) and Medwin Adams (Head of Machining & Assembly) from **AAT Composites** received the company's membership certificate from Vincent.



Frank Slabbert at **Apple Plastics** receiving the company's PtSA membership certificate from Ruann.



**Capewell Springs and Metal Pressings** receiving the certificate from Vincent Nel PtSA Western Cape Industry Liaison Officer. From left are Mukolima Mukelabai, Ashley Snell, Emile Coetzee and Vincent.



Rodwell & Tracey van Wyk from **QP Global** receive the company's PtSA Membership Certificate from Bronwyn.

# PtSA Enterprise Development Programme improves competitiveness in Tooling Industry

PtSA has recently undertaken an Enterprise Development programme in a number of companies in Kwa-Zulu-Natal, Eastern Cape, Gauteng and Western Cape.

This programme forms part of a structured value chain which covers the following areas:



PtSA has partnered with the WerkzeugBau Akademie GmbH (WBA) - the world leaders in tooling-specific research and consulting—to implement the Programme through the PtSA project management and implementation company.

This is what some of the companies had to say about the programme:



Bevan Davis (far left in the photo) from **Conver-Tek** believes the team fully understood the brief and were most helpful and objective in their analysis and summary. “We would want a follow-up in a few years time. Very good Intervention thank you,” he added.



Henry Muller (third from left in photo above) from **PIMMS Group**, said “The project gave us insight, tools and skills to develop processes and improvements for our toolroom. It provided a systematic approach to analysing root cause for problems and to create solutions for the way forward. It highlighted to our team how to better approach our challenges with these tools provided to us.”



Dewet van Veijeren (right in photo above) from **Robbie Deyzel** Engineering in the Eastern Cape, praised the Enterprise Development team for their assistance with the Intervention Project. “The team introduced Trello, a web-based Kanban style programme to improve the process flow through our workshop. They also implemented a rework process flow and report as well as implementing S6 to mark out the workshop and standardise each work station which improves time management and productivity. It was an eye opener to see how a small change in each area makes a huge difference,” he said.

**PtSA will again be offering the programme to eligible companies in the near future. Please contact the Regional Managers — details are on page 11 of the Newsletter.**

# Partnership helps grow the local tooling industry and part production

**MCR Plastics, a member of PtSA in the Eastern Cape, and CR Moulds in Portugal have forged a partnership to bring technology from Portugal to South Africa.**

Morgan Waterboer, owner and director of MCR Plastics has a ND in Plastics Technology with more than 17 years' experience in the automotive industry.

He says, "I always wanted to be an owner of my own business, and when I met Joaquim da Costa Rodrigues, who is the owner of CR Moulds in Portugal, we developed a partnership to bring state-of-the-art technology from Portugal to South Africa".

The two companies do the design, 3D modelling and manufacturing of their tools; all without any outsourcing.

MCR Plastics has a modern toolroom and a state-of-the-art plastic injection moulding facility based in Uitenhage in the Eastern Cape, which boasts 1K and 2K injection moulding technology – a process of merging hard plastic with rubber in two separate cavities during the injection moulding process. With their facilities being in close proximity to the local automotive industry, Morgan feels that they are well-positioned to contribute to the requirements of the South African Automotive Master Plan vision to increase local content to 60% by 2035 from the current approximately 39%.



**From left: Joaquim da Costa Rodrigues, Edwina and Morgan Waterboer with some of the components moulded by MCR Plastics.**

## PtSA Partner

**momentum**  
consultants & actuaries

## Upcoming Events

### ISTMA Webinars:

- 28 April
- 15 September
- 19 May
- 13 October
- 23 June

### National Networking Events:

- 7 April
- October 2022

### Regional Networking Events:

- Details to follow from each Region

### PtSA AGM's:

- June 2022 – Regional PtSA AGM's (details to follow)
- November 2022 – National PtSA AGM (details to follow)

### PtSA Conference:

- November 2022 – National PtSA Conference (details to follow)



## Medical Scheme

### for the benefit of PtSA members

PtSA has worked closely with Momentum, a PtSA Partner, to reach an agreement which will offer PtSA members a Medical Scheme, depending on the income levels of the members' employees.



### Ongoing Support by Momentum Consultants & Actuaries (MCA) to PtSA members

- MCA will assist with implementation (Employer as well as Employees)
- Member presentation sessions and/or one-on-ones will be arranged, and option selection will be based on the needs of each individual
- Application and activation process
- Ongoing support to Employer and Employees – Claims, Membership matters, hospital admission authorisations etc) via a dedicated Consultant and MCA Helpdesk available (telephone line 0861 and Email / dedicated Email address)

### PtSA / Momentum Medical Scheme offers 5 products

PRODUCT	CATEGORY	MONTHLY COST	BENEFITS
Health4Me	Medical Insurance	R294 Main Member R294 Adult Dependent R148 Per Child (max 4)	<ul style="list-style-type: none"> <li>• GP visits to a network of GPs</li> <li>• Day-to-day benefits through a network of private doctors and specialists</li> </ul>
Ingwe Network	Medical Aid	From R940 (main member)	<ul style="list-style-type: none"> <li>• Hospital Cover at private hospital (Network list)</li> <li>• Chronic Cover (27 PMB* Conditions)</li> <li>• Day-to-day benefits only at network providers (GP, limited specialist, medication, basic radiology &amp; pathology, basic dentistry and optometry)</li> <li>• Add HealthSaver (Savings Account) for additional day-to-day expenses</li> </ul>
Evolve	Medical Aid (Excludes Chronic)	R1 345	<ul style="list-style-type: none"> <li>• Hospital Cover at private hospital (Network list)</li> <li>• Add HealthSaver (Savings Account) for day-to-day expenses</li> </ul>
Custom	Medical Aid	From R1 706 (Based on Members' choice)	<ul style="list-style-type: none"> <li>• Hospital Cover at private hospital (any hospital or Associated Network list)</li> <li>• Chronic Cover (27 PMB* Conditions)</li> <li>• Add HealthSaver (Savings Account) for day-to-day expenses</li> </ul>
Incentive	Medical Aid	From R2 224 (Based on Members' choice) (Includes 10% for Medical Savings)	<ul style="list-style-type: none"> <li>• Hospital Cover at private hospital (any hospital or Associated Network list)</li> <li>• Chronic Cover (27 PMB* Conditions + additional 6 Conditions)</li> <li>• Day-to-day expenses paid from Medical Scheme Savings Account (10% of contribution)</li> <li>• Add HealthSaver (Savings Account) for additional day-to-day expenses</li> </ul>

\* Prescribed Minimum Benefits

### Benefits of the PtSA / Momentum Medical Scheme:

- PtSA members will enjoy the benefit of being grouped and receive focussed attention;
- Dedicated contact assistance from Momentum Help Desk for PtSA members;
- PtSA will ensure that members are supported by Momentum;
- Possibility of no waiting periods for PtSA members when joining the Medical Scheme, dependent on negotiations.

**Contact PtSA Office to set up a meeting with MCA**

# PtSA Enterprise Development Programme

## Assists the South African Furniture industry

**With the furniture industry relying heavily on tooling for their manufacturing processes and using many components in their furniture which are either cast, moulded or stamped, it made logical sense for PtSA to assist the industry with improving their competitiveness.**

A number of companies in the furniture manufacturing sector were offered the opportunity to participate in a Benchmarking Project which is part of the PtSA Enterprise Development (ED) Programme.

Following negotiations between Je'Maine James-Lowicki, the PtSA ED Programme Manager and SAFI (The South African Furniture Initiative), three furniture manufacturing companies in KwaZulu-Natal and Gauteng were chosen to participate in the project.

The PtSA ED team evaluated the internal capabilities, manufacturing processes and production controls in these companies, and then developed improvement solutions

to address some of the challenges faced by the companies. The companies are now in the implementation phase of the solutions, with continuing consulting support from the PtSA Enterprise Development team.

"The approach being implemented is to follow a focused strategy of aligning products, services, skills and technologies in order to ensure the achievement of competitiveness withing the industry," concluded Je'Maine.



## Eastern Cape Company Expands its Operations to Gauteng

**Injection Technik, a PtSA member from Eastern Cape, has recently opened a toolroom in Rosslyn, Gauteng, to support customers in that region.**

This is the third toolroom to be opened by the company which focusses on mould repair and maintenance as well as supporting and commissioning of imported moulds; mainly those moulds which are too large for local manufacture.

The company now has a presence in the Uitenhage/Gqeberha area, the East London area and the Rosslyn area in order to ensure quick response times and full support for their customer base and in particular the automotive sector.

As was highlighted by Stephan Aucamp, the Business Director of Injection Technik, at the recent PtSA webinar which focussed on the critical role of tooling in the growth and development of the South African manufacturing sector, this move by

the company illustrates how the tooling industry supports the manufacturing sector.

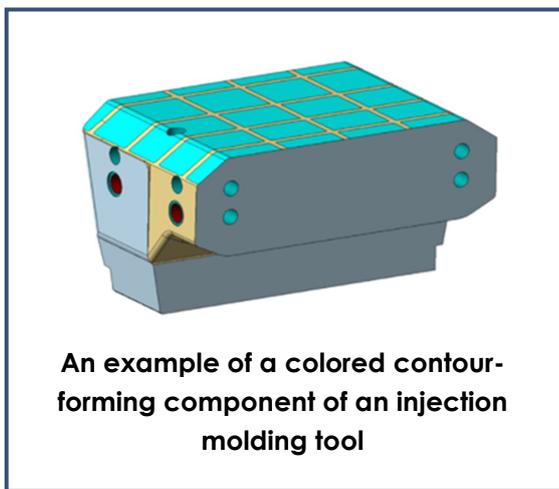
Stephan said **"the tooling industry is vitally important for the growth and support of the manufacturing industry and we are very pleased with our decision to open a branch in Gauteng in order to support the growing automotive industry in that region"**.



# Colour table for CAD-supported transmission of tolerances in Tool and Mouldmaking

As part of our efforts to include more technical content in our PtSA Newsletters, we are including an extract from the VDWF Dialogue, the magazine of the German Tool and Mold Making Association, (VDWF - Verband Deutscher Werkzeug und Formenbauer).

Along with PtSA, VDWF is a member of ISTMA (International Special Tooling and Machining Association) and thus we have much in common where we can explore ways of supporting each other and our members.



"Towards the end of last year, Dirk Falke, Chairman of the Color Table Working Group and owner of the Falke Engineering Office, presented the guideline for CAD-supported transmission of tolerances drawn up by the committee. The new framework is intended to facilitate cooperation between companies and help avoid mistakes. For Falke, this is "association work done by the book".

Through its working groups, the VDWF offers a structure for exchanging experiences and facilitating the industry-internal coordination needed for standardizing processes.

Prof. Thomas Seul also emphasized the importance of such results from the association's working groups when he presented the guideline, saying: "It is small steps like this one that makes digitization workable in our industry."

## Why was the guideline necessary?

Toolmakers color code surfaces on CAD models to

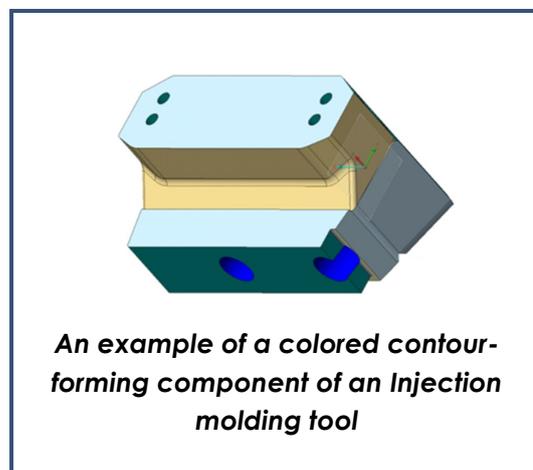
denote the required manufacturing accuracy of the design. This allows for the streamlining of one-off production processes.

However, the fact that many companies have created their own color tables and there are therefore many different systems in use has limited the universal applicability of this sensible approach in recent years. As a result, errors were repeatedly introduced into daily production, when, for example, tool and mold manufacturers outsourced individual subtasks such as milling, drilling, or eroding work to external service providers.

"Given that deadline and cost pressures are expected to rise, the need for networked work is also increasing" Falke explains. "That is where the color table, developed by the VDWF can help prevent transmission errors", he concluded.

To this end, the VDWF initiated the "Color Table Working Group" in the Spring of 2019. Working together, a group of industry experts developed the guideline to standardize color coded CAD-supported transmission of tolerances in tool and mold making.

Following the initial publication, there is now a review period of six months in order to assure transparency. During this time, suggestions for improvement and specification requests can be submitted to the VDWF. Relevant contributions will be incorporated into a revised version to be published in April 2021."



# PtSA KwaZulu-Natal is on the move

**The PtSA KwaZulu-Natal team, along with the TDM Skills Programme students in the region, are moving into new premises situated at 1 Wigford Road, Masons Mill in Pietermaritzburg.**

This will be the new home for the PtSA KZN Centre of Excellence which will house the PtSA training facilities in the region as well as the PtSA regional offices.

These training facilities will be more efficient than the previous facilities because all the training facilities, including the advanced machining facilities, will be under one roof.

Richard Kannigan, the PtSA Regional Manager responsible for the KZN region, says "we are very excited about this move and to opening our new facilities for the benefit of the region."

PtSA membership in the KwaZulu-Natal region is taking off, with the first members, ST Projects and Home Concepts having recently joined PtSA.

Richard says "we are busy building relationships with companies, and it is especially crucial looking at

long-term relationships for the benefit of the industry and economy in the region."

He is very pleased to welcome the first PtSA members in the region, and he is especially pleased to welcome the first female-owned

toolmaking member, ST Projects, which is contributing to the tooling sector and advanced machining sector in the region.

He goes on to say that the PtSA KZN region, and the highly motivated team in the region, are looking forward to being of service to the current and future PtSA members in the region.



**Richard Kannigan**

## Wagner Systems' participation in benchmarking project results in improved productivity

**Wagner Systems, a PtSA member from the Western Cape, and contract manufacturer specialising in the production and assembly of fine mechanics components, participated in a PtSA Benchmarking Project in 2017, and a subsequent Turnaround Solutions Programme with Productivity SA, after a recommendation from PtSA.**



**Lasni Millar**

"This Programme resulted in great benefits for the company," said Lasni Millar, MD of Wagner Systems. He goes on to that the "net effect of our participation in the PtSA benchmarking process, has first and foremost been a substantial increase in our productivity."

"Our output more than doubled with, in essence, no investment in capital equipment. This led to us being more competitive which, in turn, increased profitability. Being profitable makes our business more sustainable."

Wagner Systems participated in a PtSA re-benchmarking process in 2022 to measure the progress that the company has made since the initial benchmark of 2017.

To quote Lasni "we participated in a re-benchmarking exercise by PtSA Enterprise Development (ED), and the effects of the intervention in 2017 was still clearly visible when comparing our current results with those of the initial benchmarking exercise in 2017. Being able to benchmark against best practice of not only South African, but German and Chinese tooling and precision engineering companies, is most useful. We are planning to work closely with the PtSA ED team to better understand and implement the areas recommended for improvement at our company following the benchmarking process."

# Join the Best - Become part of the Network

By joining PtSA, you become part of the network of companies which forms the tool, die, mould and specialised machining industry in South Africa.

## Connectivity

- PtSA members have the opportunity to become part of the national and global network of TDM companies.

## PtSA is the collective voice of the TDM industry

- The PtSA partnership agreement with government (INTSIMBI Future Production Technologies Initiative) facilitates dialogue between the TDM industry and government.

## Improvement of competitiveness of PtSA members

- PtSA, through the process of improving the competitiveness of companies, facilitates the growth of the supplier base for the benefit of the larger corporates, and in particular the OEM's.

## Training and upskilling programmes

- PtSA, as the Development Quality Partner (DQP), has developed a number of SAQA approved artisan qualifications and apprenticeship programmes for the TDM and Special Machining industry in South Africa.
- These programmes result in SAQA registered and QCTO and merSETA accredited Toolmaker NQF Level 5 and Tooling Machinist NQF Level 5.
- The programmes are offered in four facilities; QCTO accredited state-of-the-art PtSA Centres of Excellence across South Africa.

## Networking, matchmaking and information programmes

- PtSA hosts regular Networking meetings in the Western Cape, Eastern Cape, Gauteng and KwaZulu-Natal.

## Better understanding of the Fourth Industrial Revolution (4IR)

- PtSA facilitates the understanding of technology developments for its members by means of information programmes, demonstrations, publications and networking.

## PtSA facilitates international connections for its members through its membership of the International Special Tooling and Machining Association (ISTMA World)

- Access to over 21 Associations in 20 countries/8000-member companies.

## PtSA promotes sustainable development within the industry to ensure long term growth of the industry

- PtSA facilitates opportunities for members to have access to information, training, workshops, etc. on sustainable development.

PtSA corporate facilities are available for use by its members PtSA website provides information about international and national news, events and trends in the industry.

## Contact details for Regional Managers:

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<b>Richard Kannigan (KwaZulu-Natal):</b>	richardk@ptsa.co.za
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## Contact details for PtSA News:

<b>Liza du Plessis (PtSA News: Editor)</b>	lizadp@ptsa.co.za
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# Do you want to **Advertise** your product or services to the Tooling Sector?



- PtSA is offering the opportunity to advertise in the PtSA News (Newsletter of the Production Technologies Association of South Africa)
- PtSA News is widely distributed both in South Africa and Internationally
- PtSA News is the only publication which is focussed on the Tool, Die, Mouldmaking and Special machining Industries in South Africa

## Advertising Fee Structure: (Excl. VAT)

Size	Per Issue		Annually (6 issues)	
	PtSA Member	Non-Member	PtSA Member	Non-Member
1/4 page	R2 400	R4 895	R12 690	R25 395
1/2 page	R4 800	R6 630	R23 500	R34 875
Full page	R6 500	R10 760	R31 600	R55 680
Outside Back cover	R9 500	R16 600	R46 800	R85 500

Please contact Liza du Plessis at [lizadp@ptsa.co.za](mailto:lizadp@ptsa.co.za) for details, or to book an advert!