



Aeronautical Society of South Africa

(Association incorporated under section 21)
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A Division of the Royal Aeronautical Society

AeSSA Newsletter – August 2008

EDITORIAL

As Spring is approaching, the latter part of 2008 is expected to be very busy with aeronautical activities, in particular the 2nd Aerospace Symposium being held in Stellenbosch, as well as the African Aerospace & Defence (AAD) Show at Ysterplaat.

This Symposium to be known as SAIAS 2008 (South African International Aerospace Symposium) has the theme “Advancing Africa through Aerospace” is particularly apt where we have seen an overall decline in aviation activities through mostly poor understanding of the key issues that govern this sector of the economy, however Africa’s advancement beyond its current third world status is very dependent on the success of the aviation industry as many areas are still only accessible by air.

As this goes to press, the organizing committee is in the final throes of putting together the Symposium’s Programme, it should prove to have an excellent speaker list and so far around 180 delegates have registered. This being the 2nd Symposium of its type, it was decided to extend the technical content, from the experience gained in 2007. This Symposium is essentially an initiative driven by the Department of Science & Technology through their agency AMTS, with AeSSA contributing regarding technical support and a membership base with a keen interest Aeronautics. The Flight Test Association (FTSSA) also being affiliated to the Society has also thrown in its contribution regarding flight test activities, thus the Symposium should prove to contain a good balance of papers in the design R&D arena as well as Flight Testing.

With the Symposium co-scheduled with AAD, it should attract many international delegates as well. As such the President of the Royal Aeronautical Society Capt David Rowland has accepted our invitation to attend and be a key note speaker. Watch out for the forthcoming report back.



ECSA Under Threat of Losing Autonomy as Legal Entity

Much has been circulated on this subject, both in the press and to you as members, in a nutshell, so what is all the fuss about?

The Department of Public Works has made notice of a new bill that will create a new organization to be known as SACBE (South African Council for the Built Environment) as an umbrella regulating body for all Built Environment activities, and it would review legislation governing the Council for the Built Environment (CBE) and the six Professional Councils.

On 05 March 2008 ECSA received, from the CBE, a Policy Document on Proposed Amendments of the Statutory Regulatory Framework of the Built Environment Professions which was made available by the Minister of Public Works, Minister AT Didiza. In view of the strategic importance of the policy on regulation of the professions the Policy Document was immediately placed on the ECSA website for information.

ECSA Council met on 06 March 2008 and, in recognition of the importance of the matter and urgency imposed by the timeline leading an envisaged change in legislation, initiated a process for responding in a well considered and thorough manner. As a first step a request for extension of the period in which comments may be submitted will be requested from the Minister to allow Council to prepare detailed and well thought out comments on the proposed amendments. This process will include consultation with recognised Voluntary Associations, with other Societies and Associations in the engineering environment and with the five sister Professional Councils in the Built Environment.

Statutory regulation of the professions in the Built Environment and the engineering profession in particular, is justified primarily by public health, safety and other interests but inevitably affects the individual professionals in a direct way. The management and administration of the legislation is therefore of real interest to individuals.

What the planned changes mean to us as individuals in our named profession, is firstly, we have another bureaucratic layer to contend with regarding our professional status and registration, secondly, the bureaucrats will try to combine more professions into a common pool to reduce their admin overhead, thirdly, there will be less of a possibility that professional accreditation will be done in specific engineering specialties, fourthly, all the work done by ECSA becoming accredited within the context of the Washington & Dublin Accords will have to start again. There are many more difficulties foreseen, and if you need to know more, these have been encompassed in a detail submission to ECSA previously sent to members.



A Plan for Development in RC Model Flying (edited from an article by Rob Hurlin)

South Africa has an urgent need for technical skills, particularly in aviation. Many young people have a passionate interest in aviation, but do not have access to a means to develop this interest. Radio Controlled flying provides an affordable means for young people to fly an aeroplane and to learn the basics of flight. The development of this passion will lead many young people into a career in aviation, perhaps as a pilot, crewmember, technician, engineer, business manager, lawyer, medic or one of many other opportunities.



Rob Hurlin was able to muster the contributions of the South African Model Association (SAMAA), Frasers model shop, AeSSA and the Silverton model flying club to partake in a venture to introduce young people into aviation, by means of hands on flying of model aircraft. Training first started on a series of PC based simulators donated by Frasers, thereafter advancing to a flying trainer also

donated by Frasers. Out of this the Cornerstone Model Flying Club was formed with 20 members, many of them having achieved solo pilot status.

Through the AeSSA the club members have attended various functions, including a presentation on the SA aerospace industry at Aerosud and an RC flying and SAAF Museum open day at Swartkops AFB. On this occasion two of the club's members were able to get a flight in a SAAF Kudu.

With this first successful venture having operated for over one year, plans are being made to extend this to other schools as interest develops and more funding can be secured. It is intended to further develop the activities of the club to start to include taking part in regional and national competitions which will further develop skills. Lets work together to channel young people's enthusiasm into a great hobby and hopefully a career in aviation!

(The full article can be found on the website)



THE JOHN WESTON MEMORIAL LECTURE

The Aeronautical Society of South Africa held one of its prestigious lecture series at Aerosud on the 19th of March, this being the John Weston Memorial Lecture which is held every two years. The individual nominated for this lecture is selected as somebody who has contributed significantly to the South African Aerospace Industry, and is awarded a gold medal from the Society.



This year Aerosud's Dr. Paul Potgieter was nominated for this prestigious award, and gave a lecture on his "Vision for the Future of SA Aerospace". Salient points of his lecture covered a historical perspective of the SA industry having gone through 4 eras, that of Self Sufficiency – in the heydays of Rooivalk & Cheetah, post 1994 Defence Packages – Gripen, Hawk and Agusta, Globalisation – with the SAA fleet renewal providing a much needed boost, and more recently the Government's dti initiative to take part in risk and revenue sharing projects.

The question is asked, why should there be growth in the SA Industry? – Paul provided a very enlightening perspective on his view on growth prospects and business opportunities in this sector primarily stemming from:

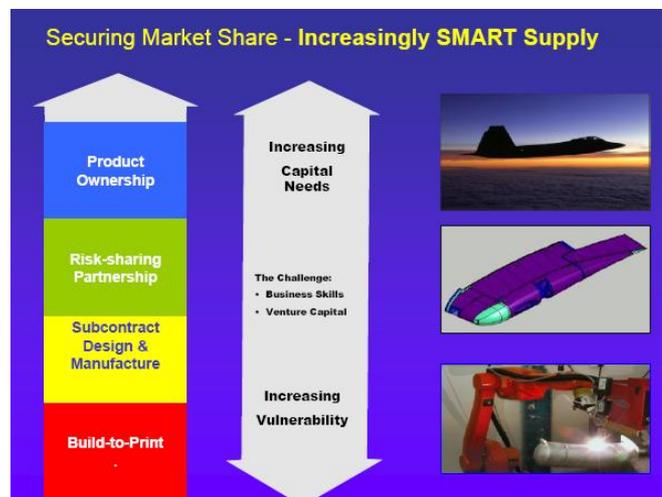
- The realisation that we can
- We have the labour, business and technical skills
- Government's initiatives are supportive, the Department of Trade and Industry (dti) having created industrial participation mechanisms, the Department of Science and Technology (dst) having created research structures and the Industrial Development Corporation (IDC) being able to provide financing capabilities.

Aerosud has been the benchmark in the SA Aerospace Industry in capitalising on winning contracts throughout the changing environment to achieve long term business viability and now has a sustainable global customer base and a reputation of being a reliable supplier.

Aerosud is now focusing on further organic growth, expansion of facilities, building further industry links and most importantly the development of the supply chain into second tier levels. This supply chain development is critically linked to the establishment of the Centurion Aviation Village as the enabler of involving the required supporting industries.

Aerosud's ultimate future vision is to climb the value chain in Aeronautical products and become a smart supplier of significant aircraft structures and eventually be an OEM of its own products.

The lecture was held in Aerosud's Innovation and Training Centre on splendid Autumn evening and was concluded with the Society President Rob Jonkers handing over the John Weston gold medal and congratulated Paul on his contribution to the success of the Aerospace Industry.



RC TECHNOLOGY AND FLYING DEMONSTRATION - SWARTKOPS AIR FORCE BASE (By Dr Rob Hurlin)

Our concept for this event started with the idea of bringing members of the AeSSA up to date with the latest technology in Radio Control Flying. When Gen. Thackwray started negotiating with the SAAF Museum at Swartkops AFB it was suggested that we combine our function with the Museum open day on 1 March. Arrangements were duly made with Col. Spolander (OC) and Lt. Col. Shepherd (Admin Ops Officer) of the SAAF Museum.

The day started early with an exploration of the SAAF Museum static displays and flying demonstrations. Flights by an Alouette II, Alouette III, Harvard, Bosbok and Kudu were enjoyed by all. A visit from a new SAAF Agusta A109 was a highlight.



The AeSSA programme started at 1:15 pm with a demonstration of three electric flying wings called Gremlins. They were flying combat and trying to cut each others streamers. A mid-air collision seemed to do no harm! The pilots were Matthew Hirst, Rob Hurlin and Simon Faragher. This was followed by a demonstration of a 4 stroke Stick by Marcel Bode and a 20cc Ultra Stick by André Beukes.



A lecture on current technology in radio control flying was presented by Rob Hurlin. He covered the latest innovations in radio control electric, glo-fuel, petrol and jet aircraft and helicopters. The lecture was held in Hanger 5 which also housed a static display of radio control aircraft of various sizes and styles.

A display of an Aerosud aircraft design training programme was also on view in the hanger. Representatives of Siyandiza (SAAF youth development programme) were on hand with brochures and information for a career in the SAAF!

After the lecture the RC flying demonstration continued. Simon Thladi, a high school student from Johannesburg, put on a display of his electric glider.

This was followed by a brilliant display of electric and glo-fuel helicopter flying from another high school student, Arney Sieling. André Beukes flew his X-cell 90 and we then were treated to a realistic flight of a scale Agusta A109 in US coast guard colours.



Shaun and Allen Frazer put on an impressive demonstration of their 1/3 scale YAK 54. This aircraft has a 2 cylinder petrol engine of 106 cc.

Tony Gibson was next with a 33% Corsair (also with a two cylinder petrol engine), André Killian with a 25% electric YAK and a very impressive 40% Extra 330L in Mazda livery flown by Chris Sheers. Andre Stockwell flew his 40% Edge 540 to round off the large petrol aircraft.



The grand finale that everyone had been waiting for was the flying of the jets. Marthinus Potgieter thrilled the crowd with his F15 and André Stockwell showed us what speed is all about with his Boetcat.

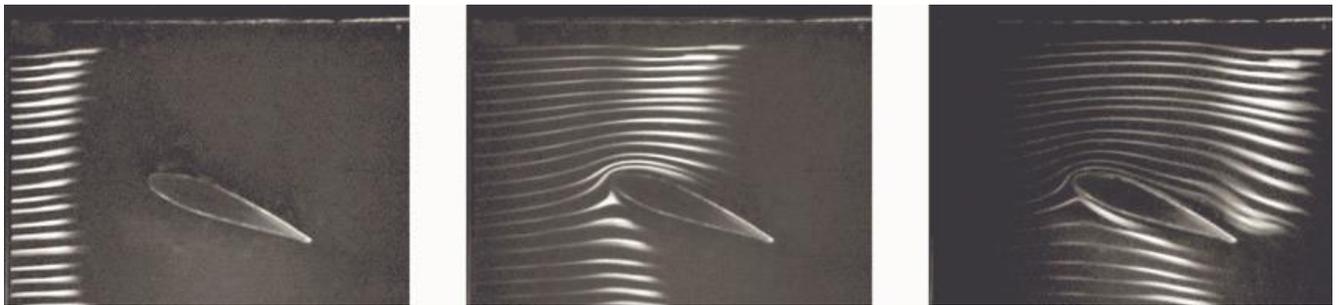
Many thanks to the SAAF Museum and all the participants for a great day of flying. Thanks also to Johann Ehlers who was our flight director and ensured safety of all the RC flying.

WHY WINGS ACTUALLY WORK (By Dr Holger Babinsky – Reader in Aerodynamics, Cambridge University)

The Society was able to secure a lecture on Aerodynamics, in fact fairly fundamental Aerodynamics where all the traditional explanations were challenged. Dr Holger Babinsky was touring SA and agreed to provide a lecture to the Society on his acclaimed study of lift concerning aircraft wings. Wits University kindly hosted the event on the 3rd of April and the lecture had a turnout of over 70 people.

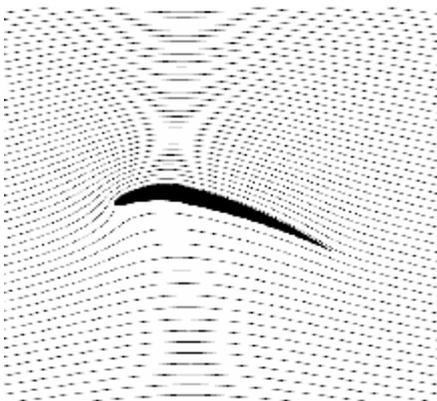
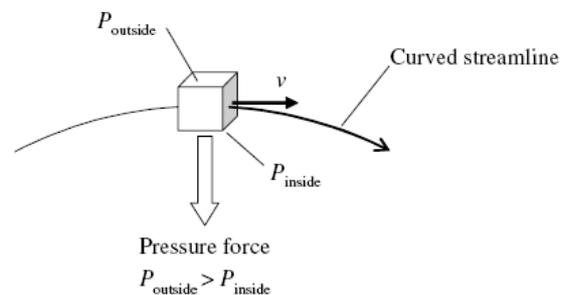


The science behind aeronautics continues to fascinate and many students are attracted to engineering as a result of an early interest in aircraft. The most commonly asked question is how a wing can produce lift. Unfortunately the most widely used explanation of lift is wrong in a number of key points. Not only is this confusing for students, but in the worst case it can lead to a fundamental misunderstanding of some of the most important aerodynamic principles.



The above diagram demonstrates the folly of one of the popular myths that particles will meet up on the other side of a body travelling in a flowfield.

Without going into the detail of the lecture, Dr Babinsky explained that the key to the understanding of how lift is produced is in the pressure gradient that is prevalent across curved streamlines, where pressure increases in the direction away from the centre of the curvature.



For any budding Aerodynamist and members who wish to truly understand the science of the air and its movement, Dr Babinsky's work is a must read, where the mysteries are explained in science fact. Information on the lecture provided and detail theory behind this can be found on the Cambridge University web site.

FORTHCOMING EVENTS

The Council is primarily focused in the final arrangements of the Aerospace Symposium taking place in September, thereafter at least one lecture is planned prior to the end of the year.

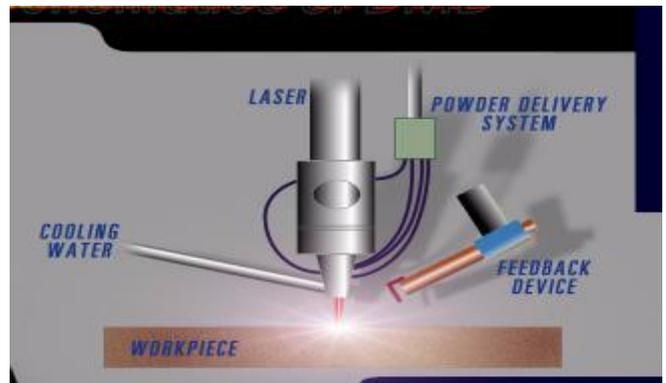
13 August 2008

The Flight of Birds, Bats and other small scale flying machines
- Prof Geoff Spedding
Venue – University of Pretoria



SAIAS – 2008 15-16 September 2008

2nd Aerospace Symposium
Venue – Spier, Stellenbosch



AAD – 2008 17-22 September 2008

African Aerospace and Defence Show
Venue – Ysterplaat, Cape Town

