



MATS in 2013, Status of Activities & Future Prospects

MATS is a Radio Controlled Modelling Club dedicated to silent flight since the very beginning of its history. For many years gliders were made airborne using ground equipment like winches, elastic catapults, hand launch and dedicated tugs. A number of competitions have been run using pure gliders and ground equipment following formats as the TD, SLF and F3J standards. For years the source of great improvement and evolution came from enhancements in structures and from new airfoils. That evolution seems to have reached the best achievable level.

The next evolutionary stage has been set by new electronics: the availability of new radios, on-board altimetry, new battery technology and brushless electric motors have changed the game yet another time. It is now possible to have affordable propulsion set on-board to take off with a very attractive power to weight ratio and to limit the altitude at which the engine will stop turning. In actual terms these new technologies remove the greatest hurdles that the members of MATS have faced together with the rest of RC Gliding community: carrying and installing winches at the field, laying down hundreds of meters of cable, sustaining the tension at launch, retrieve the cable at each launch, and reverse the whole process at the end of the practice day. The need of large flying fields has vanished with the introduction of the new technologies.

TD flying has basically disappeared from the charts. Pilots all over the country have switched to electric powered gliders. MATS members as well. As far as I remember, this is probably the most fast paradigm shift in the sport in 20 years.

The Altitude Limited Electric Soaring (ALES) is the new standard all the competitions in Quebec and Ontario have abided to in 2013. The logistics is greatly reduced allowing a small club with a small flying field to host a competition day with 20+ pilots. Rules are simple, allowing flying different ships from foamy to full house composite gliders at the same time, yet giving to everybody a chance to score well.

MATS members have put together an ALES ship called Omerta. The machine has been designed and built in-house based on the previous SupraKuda. Many different prototypes have been built and successfully flown, sporting pylon or traditional wing mount, V-mount horizontal stabiliser, foam or traditional structure vertical stabiliser. Wings have been built using the club foam NC cutting machine that has been improved to obtain even greater precision particularly over the leading edge and simplifying the assembly sequence integrating spar recesses and kevlar hinges over-thickness and/or local reinforcements of different kind directly in the foam volume. The glider has been proven extremely effective in all conditions allowing its pilots to score well in many competitions.

ALES competitions are sanctioned by the ALES League and a North American ranking can be found at: <http://ales-league.org/>

In 2013 MATS members have been ranked as follows: Jacques Girard 25th, Luca Valle 104th, Stephane Monfette 127th, Paul Charlebois 152nd, Duc levan 154th, Stephen Barry 174th and Roland Goudreau 292nd. Congratulations!!!!

One of the drawbacks of the technology enhancements that have allowed the ALES format to develop is the increased power of the propulsion set. High currents are quite normal. Major care has to be used when putting together and running circuits that can easily draw 60 Amperes with engines that can develop close to 1 KW. In a few occasions LiPo, even though they are order of magnitudes safer than the very first models available on the market, failed. A new awareness has to be built in MATS members: lack of noise is usually a sign of "no danger" for anybody used to glow engines or pure gliders. But, electric motors do not generate any noise even when they are under tension. Moreover the lack of signal to 2.4GHz when the model lies on the ground can constitute a recipe for potential damage to material and people. In another occasion a LiPo pack was set to fire by an improper recharge. Safety bags are now available for a few dollars and are a very good investment for transportation and storage of the battery packs. This is not sufficient though: managing batteries, their maintenance and under-tension gliders must be re-considered from a safety standpoint due to the risks associated to higher onboard power. MATS should possibly add a series of recommendations to Flying Field Rules following the spread of the new technologies.

2.4GHz radios have taken over the flying fields. In terms of safety this represents a huge improvement having completely solved the issue of having two gliders on the same frequency. Still a few issues remain: antennas must be carefully positioned to achieve full range. If installed through the fuselage walls, antennas must be accommodated in teflon tubes to ensure that no wearing occurs because of vibrations. Different techniques exist to validate range and proper antennas installation; youtube videos from 2.4GHz radio vendors are available. Once again, some of these safety checks could be listed in the rules and posted on the website for the best convenience of the members.

MATS participated to many ALES events with Omerta. The competition that is worth mentioning the most has been held by Carlisle Aeromodelers in Carlisle, PA, USA on June the 14th, 15th and 16th. Its name is PoleCat and attracts the best pilots of the US in the category. A rather large Canadian Team was present too from Montreal, with myself, Jacques and Stephane from MATS, Dan and Etienne from C2VM, and many others from Ottawa and Gatineau. While Omerta proved technically on par with all the machines on the field, including the latest designs which sell at 2000+\$!!!, it was clear that reliability was the Achille's tendon of the Canadian contingent. MATS members have been plagued by a number of technical issues that needed numerous repairs between flights. The team was extremely cohesive despite the troubles and achieved to make everybody fly during 3 days of intensive competitive flying.

I would like to remember the repair of the fuselage of Bernard from Les Ailerons that had the nose split in two after a very bad landing. Jacques and Luca disassembled the radio and motor, repaired the fuselage with glass fiber and 5 minutes epoxy in the down time between two consecutive flights. The canopy was installed while the glider was walked to the start line. Beside the technical prowess demonstrated, this event validated the camaraderie and inter-club support and the extremely effective logistics of the team carrying everything needed in such a distant and important occasion. MATS is already working on a new airframe for next year

season and, reliability will be carefully sought before showing up to the competition. Hopefully weather will assist us, permitting a few flights before the big occasions!

It has to be said that some thoughts have been put in making sure costs do not soar as in the usual escalation of material requirements parallel to the maturation of the category. This discussion has to be kept alive to avoid the drying of the interest, already happened in so many previous occasions.

Other novelties linked to the availability of new electronic gizmos have been appearing in the form of quadcopters and FPV. Stephane is our man on this subject. Bi-directional links between the quadcopter and the pilot allow Stephane to perform stunning flights and to take videos that have been advertised on the Internet. A few persons have contacted the executive after having seen the website and those videos which prove the internet being a good advertisement channel for our activities.

The website has been maintained at good pace up until May. Unfortunately personal issues have made impossible to publish new material at a rate it deserved. The next few weeks will see a number of updates with pictures and information already available to the webmaster. Stay tuned!

The MAAC St-Laurent Zone Presidents meeting has been held. MATS has participated and got in contact with many clubs not far from our location. Interest has been showed towards future collaboration and sharing.

New members have proven very active in flying and recruiting members: Paul has improved his skills at incredible speed and together with Roland, participated to a first competition with foamy gliders. Congratulations to them for their spirit and improvements. A big "thanks" also for the new landing tapes that MATS have acquired thanks to Paul intervention.

This Executive has to notice that we had a few issues with the management of the Flying Field. As we all know we fly on a very valuable and beautiful, let's not forget enormous, piece of land that is primarily a sod farm. The agreement with the landlord is pretty clear: we are allowed to get in and out the field through the road only. For no reasons and in no circumstances MATS members are allowed to drive anywhere else. Care must be used to decide in which lot a pilot should fly, avoiding freshly sown lots. I know this is an annoying point but I will not be tired of repeating: this is pretty much the only rule we have to abide to. Let's drive on the road, whether it is muddy or not, let's preserve the sod, and we will continue to enjoy the Les Coteaux for long.

The executive is also aware than people not belonging to MATS are allowed by the Richer's family to fly on the field. The executive intends to talk to the landlord to find a reasonable way to manage this weird situation: we have no interest in paying a rent while being considered responsible for damages somebody else have done to the sod farm.

On the same subject it is worth mentioning that C2VM is once again without a flying field. Some of the members will join MATS for the next year. This will bring another new breed to the club. Electric Aerotow is a discipline not developed yet within MATS. This contamination could result in yet another interesting facet of the sport to our club.

21 December 2013

Luca Valle