



IAOPA World Assembly: 'glass half full'

And the good news is... there's not as much bad news as there was last year. This joyful message opened the 25th biennial IAOPA World Assembly in Israel as the international association's President Craig Fuller set out the challenges general aviation faces today and in the coming years. His appraisal of threats and opportunities looked at life through an American lens, but the situation pretty much

mirrors that in every one of the 68 countries in which there is an Aircraft Owners and Pilots Association – change is all around, but the economy trumps everything.

The US, said Mr Fuller, had suffered its worst economic downturn in 70 years. "Judging where we are in that kind of environment is difficult," he went on. "But we are seeing a recovery. FBOs say flight activity

is off by 30 percent. We expect the first ten percent of that will come back relatively quickly. The next ten percent will take longer, and the last ten percent may not come back for a very long time. But we are a resilient industry, used to the vagaries of the economic cycle, and we will weather the storm."

There are bright spots; the global emergence of light sport aircraft, exemplified by Cessna's Skycatcher and by the many, many lightweights coming out of Europe, provides a means by which more people can enter aviation for the first time. Less expensive to buy and to operate, less burdened by costly regulation, they allowed GA pilots to continue to fly if they didn't need their aircraft for business purposes.

In the US, the proposal to charge aviation some \$9.6 billion in user fees 'vaporised' after intense lobbying by AOPA. "It's a proposal that will be back, but at least for the next couple of years, we're safe," said Mr Fuller.

On the downside, there were long-term issues to face. "The pilot population is in decline. Twenty years ago, there were 800,000 active pilots in the US. Now that figure is 600,000, and it is a cause for tremendous concern. We have to focus more attention on this, in collaboration with flight schools and others.

"Airports are under threat, and we are losing one a week in the US. We have 5,200 public use airports, and we see more threatened with closure than new ones opening. Some

communities see them as problems, even where there is no commercial traffic. We need to put more emphasis on this.

"Environmental concerns are foremost in our mind, security



Left: IAOPA President Craig Fuller speaks while Senior Vice President Martin Robinson and General Secretary John Sheehan listen



The big issue this month

This issue of *General Aviation* is dominated by the proceedings of the 25th AOPA World Assembly, at which the 68 AOPAs worldwide meet to discuss their common problems and co-ordinated approach to GA issues. Held in Tel Aviv in June, the Assembly brought together 80 delegates for three days of debate. High-ranking speakers from ICAO and the European Commission addressed the meeting, which ultimately passed 19 resolutions that will, in the words of IAOPA President Craig Fuller, affect general aviation for years to come.

Some 20 AOPA aircraft flew in to Tel Aviv for the Assembly, including eight in formation from AOPA Italy and one, a Mooney M20J from AOPA France which set a new world record with a non-stop flight from Cannes to Tel Aviv. Self-fly visitors included AOPA's Channel Islands Chairman Charles Strasser, who flew to Israel in his Piper Seneca with fellow pilot Ian Rosewood. After the Assembly Charles fulfilled an ambition by dipping a toe in the Med, the Dead Sea and the Red Sea in a day, flying the Seneca from Tel Aviv to Masada to Eilat. His account of that flight also appears in these pages. ■

Above: Cessna's Skycatcher and European VLAs like the WD Fascination D4 improve the cost picture

is an issue, and the fuel problem is significant. We are continuing to do research into alternatives to avgas, and we're working on a schedule to give us a number of years to

determine what the answer is going to be, then a number of years beyond that to phase it in. In the meantime avgas will be available, but at what price?

"We must resolve issues with unmanned aerial systems. There are already 1,500 different types of UAS out there, and more are being developed, and their uses expanded. The commercial sector has many uses in mind, and we must avoid being sidelined by

commercial pressures.

"The piston fleet is still not growing. The used market has been flooded with aircraft but that inventory is starting to work down a bit.

"We're going to see the modernisation of ATC facilities around the world. In the US we have NexGen, in Europe there's SESAR, and we're trying to find the right balance for GA. The FAA has come out with the final rule on ADS-B out, which will be operational by 2020. There are a number of benefits, and you'll see this evolve – air carriers will be using it more rapidly, and flight schools like Embry Riddle have equipped C172s with ADS-B in order to monitor the fleet. In the Gulf on Mexico, thousands of helicopters have the ability to track other aircraft where there is no radar. This technology will find its way all over the world – China is expected to leapfrog ground radar and go straight to satellite-based tracking like this. Ultimately there will be ADS-B in, with useful data broadcast into the cockpit."

There is a pressing need to improve the public perception of general aviation and the appreciation of its value, Mr Fuller went on.

"I've been around politics long enough to know that if a group is not valued, it is vulnerable." (Mr Fuller was President Reagan's White House Chief of Staff.) "We realised we had to create an improved perception of GA, among opinion leaders – the 15 percent of the population who get involved, who pay attention to the news – and our research shows that two thirds of that group has first-hand experience of general aviation, so we have sound foundations on which to build. With the 'GA serves America' campaign, led by Harrison Ford, we are working to influence those opinion leaders. We took Harrison Ford to Capitol Hill and had perhaps the best-attended meeting ever there... it's definitely the way to get their attention.

"We need to collaborate more and increase our activities with ICAO – in fact we have been



George Bard

Above: Harrison Ford, AOPA's powerful weapon in Washington

invited by ICAO to be more involved – and in particularly we need to engage more in Europe, where more and more new regulation is originating and where IAOPA has now taken on legal and lobbying services.

"This is a critical time, but as the economy improves we'll see new opportunities for GA. The need for mobility and the need for people to meet face to face is not going away. The industry is enormously resilient – in the US, it's a multi-billion dollar enterprise, and the potential for growth in Asia and other parts of the world is incredible. We must acknowledge the

challenges we face, but we do so with the knowledge that general aviation is strong. Its advocates are passionate. And together we can successfully manage these challenges and any others that come our way." ■

Our hosts push the boat out

General aviation in Israel is no more than holding its own, with the skies belonging to an Air Force that claims everything from the treetops to the edge of space and beyond. Defence is the preoccupation, and according to AOPA Israel Chairman Yaron Efrat there is little understanding of, or sympathy for, private flight. But, he said, there was a growing awareness that general aviation was important on many levels.

"In a country that fosters superior technology, it is vital there should be general aviation," he said in his welcome to delegates at the World Assembly. "In a country that is loyal to democracy, general aviation must flourish – where personal freedom prevails, GA thrives, but in totalitarian regimes there is no private aviation. Healthy GA is one of the signs of a developed democracy."

Israel has lot of airports and countless airstrips, large numbers of trained pilots and instructors, excellent air traffic control systems and a congenial climate. The obstacles are all in the mind. "Our goal is therefore to increase awareness of GA's value and its needs," Mr Efrat said.

The Israeli Civil Aviation Authority, he said, had historically been weak but had recently

been greatly strengthened, and the new high-quality manpower had undertaken to promote GA. Thanks to the work of AOPA Israel, the price of avgas – controlled by a government-sanctioned monopoly – had been reduced by 40 percent to about €1 per litre, but other costs were very high, and had to come down.

The World Assembly, he said, was a way to show Israel that general aviation was professional, responsible and valuable.

Mr Efrat, a former Israeli Air Force pilot and now a lawyer, said that one pressing issue for Israeli GA was the integration of unmanned aerial systems into the airspace. Israel is the world leader in UAS manufacture and use, with fixed-wing and rotary UAVs flying at every level. "Israel sells \$1 billion worth of Unmanned Aerial Systems every year, and we have to find a way to make sure they can co-exist with all aviation," he said.

Delegates were taken on a visit to the Israeli Aerospace Industries (IAI) complex beside Tel Aviv's Ben Gurion Airport, where the Israelis make everything from hand-launched UAVs to satellite systems. Rafael Hapaz, Director of the Economic Department of the Foreign Ministry, had given IAOPA a thumbnail sketch of the Israeli economy – agriculture now accounts for

only 2% of exports, while technology is powering ahead. Companies like Google, Microsoft and Intel have a major presence, and the Israeli company Teva is a leader in medical equipment. Research and development accounts for 4.4% of GDP; telecoms, biotech, nanotechnology and internet security were strong, while aviation had a major presence. Design and production of the new Gulfstream G250 super-mid-sized business jet seems to have been delegated by Gulfstream to IAI; apart from the wings and the engines, which are made in the USA, everything is done by the Israelis. IAI's chief test pilot Ronen Shapira, who commanded the aircraft's first flight last year, said it was on course for production in 2011 and gave us an overview of the jet's handling characteristics and capabilities. IAI, a profit-making subsidiary of the Israeli defence department, is active in aviation, marine products, land vehicles and satellites and has pioneered the production of unmanned aerial vehicles, having begun work on the first one back in 1972. Named the Scout, it first flew in 1975, and one such aircraft hangs in the UAV hangar just outside Tel Aviv's Ben Gurion airport. IAI now produces dozens of different UAVs ranging from hand-launched models to aircraft with the wingspan of a 737 and the ability to stay airborne for 50 hours. Israeli UAVs have been used in every conflict in the world in the last two decades – the French, Germans and Australians are currently using them in Afghanistan, under different names. ■

Below: maiden flight of the Gulfstream G250 in the hands of IAI chief test pilot Ronen Shapira



Below: Israeli-manufactured UAVs





European Commission – we need data

Mikolaj Ratajczyk, policy officer for air safety at the European Commission, represents the listening end of European regulation – the EC has been a driving force behind the Agenda for a Sustainable Future for GA and played a big role in having it presented to and accepted by the Parliament and the Council of Europe.

One of the prerequisites for supporting GA, he told delegates, was the collection of data on GA, which across Europe is sadly lacking. "It is essential in order to start developing high quality regulation to have reliable data," Mr Ratajczyk said. "The main challenge for us is we need standardised data over 27 states, so the EC, with assistance from Eurostat, member states and EASA, began a Europe-wide programme of GA data collection. The deadline for the States to submit data was the end of May; it will take a couple of months to process, and after the summer break we will have the first results."

Mr Ratajczyk stressed once again that EASA had been instructed to stop reinventing the wheel. "Regulation should be based on existing ICAO and European requirements. Where there is no technical reason to depart from the current standard, this will not be done. It's also important to maintain a good balance between 'hard' and 'soft' law – regulations should not be too prescriptive to allow for alternative means of compliance.

Delegates questioned Mr Ratajczyk closely on several positions taken by the Commission. Massimo Levi of AOPA Italy asked what had to be done to turn the Agenda for a Sustainable Future into regulation; Mr Ratajczyk said the purpose of the Agenda was to provide a consistent policy statement on how to integrate regulation, to establish general principles like proportionality and subsidiarity. It would not itself become a regulation.

Martin Robinson of AOPA UK remarked that recent EASA accounts showed the Agency had spent an additional 72,000 man-hours in overtime working on new regulation, while EASA had made a profit of

€24 million on its operations. Had the Commission been able to help EASA directly to focus its attention where it was needed? Mr Ratajczyk said the Commission held regular meetings with the Agency to agree on priorities and tried to make sure they followed guidance; EASA provided regular reports on progress.

Mr Ratajczyk also gave an update on the EC's stance on the environment, fees and charges, safety, air traffic management and other issues. The new Commission – Barroso II, to the cognoscenti – had been in place since January and was setting out policy for the EU up to 2020. The first priority was to dig Europe out of its financial crisis. It also intended to take the lead on climate change, and to develop new sources of sustainable growth. "We must invest more in research, make savings, and rely more on public-private partnerships in civil aviation and elsewhere," he said.

"There is a strong demand from the Parliament to address environmental issues, and commercial aviation will be subjected to the Emissions Trading Scheme. VFR flying and IFR in aircraft up to 5,700 kg MTOW, or with an overall volume of emissions which do not exceed a certain level, will be exempt.

"We will also drive forward the Single European Sky. European airspace is highly fragmented with sectors designed according to national borders,

creating inefficiencies which translate into higher costs – each flight flies an average of 50km longer than necessary. SES seeks to address the inefficiencies."

Targets for reductions were very ambitious, he went on; nine Functional Airspace Blocks – sections of airspace which transcended national boundaries but had common rules – were being put in place, and had been developed in partnership with all airspace users with the aim of delivering benefits for all in terms of reduced emissions and costs. ■



The European Commission's air safety officer Mikolaj Ratajczyk (left) with AOPA Israel President Yaron Efrat

ICAO plans new cross-border rules

Mitchell Fox, Chief of Flight Operations in the Air Navigation Bureau at the International Civil Aviation Organisation in Montreal, gave delegates an update on ICAO's current work as it affected general aviation, particularly with regard to international flights.

"Three or four years ago ICAO, IAOPA and the International Business Aviation Council looked at Annex 6 Part 2 of the Chicago Convention, which applies to international operations, and we all came to the realisation that this set of standards was dated, it wasn't achieving what we wanted, and needed a major overhaul," he said.

"When international rules diverge, it affects safety. Since it was introduced there has been a vast increase in business use of GA, up to and including private A380s. There are some 370,000 GA aircraft and 1.5 million GA pilots, and technological evolution has made aircraft ever more complex.

"IAOPA and IBAC chaired a working group and we developed a new Annex 6 Part 2, which states should put into national laws by

November this year. For more complex aircraft, we wanted consistency with the airlines because they mix with CAT, but proportionality was a basic principle."

Most requirements therefore fall on the top end of GA. "The new approach is layered – Part 1 is the definitions which apply to everyone, Part 2 is intended for the light aircraft community, then Part 3 is additional requirements for heavy airplanes and pure jets. We took a performance-based approach to regulation, and avoided being specific in every detail. For instance, we say 'An operator shall provide an operations manual.' We don't prescribe exactly what's in it – we make reference to industry Codes of Practice, which can assist operators.

"We recognise that equipage requirements means a lot of money, but aircraft above 5,700 kg will have to have Type IA flight data recorder. All turbines of less than 5,700 kg, after January 1st 2016, should have a Type 3 flight data recorder or a cockpit video or an aircraft data recording system."

ICAO is taking steps to ensure all AIPs are

available online, and (hopefully) free of charge. The new Annex also covers the PIC's responsibilities for passengers and security, fuel minima, the need for a safety management system, a training programme, a fatigue management programme, and a security programme.

Mr Fox said he had heard only recently that 8.33 MHz radio was being mandated down to ground level. "This is no criticism of the regulators, but 8.33 was supposed to be used for upper airspace. I was surprised when I heard it was going all the way to the ground."

Explaining the role of ICAO, Mr Fox stressed that it was not a regulator but a special agency of the United Nations employing some 700 'international civil servants'. It has the responsibility for the safe and orderly growth of civil aviation.

ICAO's new flight plan format will be introduced by November 15th 2012. "It's an enabler of new technologies like PBN," Mr Fox said. "Old flight plan will be useable up to that date. The new plans will include more details of aircraft equipment, and allow route waypoints on bearing and distance from something other than a navaid. Date of flight will be standardised, which will allow flight plans to be filed up to 120 hours before a flight." ■

The 'dodo' totters...

Leaded avgas is a dodo looking for somewhere to fall over, in the words of IAOPA General Secretary John Sheehan, and IAOPA is actively involved in research into alternative fuels, and in staving off knee-jerk legislation that would cost GA dear.

As reported in recent issues of *General Aviation*, the American Environmental Protection Agency has once again brought the issue of leaded avgas to the fore and is seeking to have it phased out, possibly within the next seven years. IAOPA has been involved for the past 20 years in the search for alternatives, but the situation is complex and there are no easy answers.

Part of the complexity is bound up in the fact that the GA fuel market is dominated by the United States, and the solution to the problem must be global. While leaded fuel is available, it is relatively low-octane and can't be used in about 30 percent of the global GA fleet. That's less of a problem in Europe, where nonsensical JAA regulation has decimated the heritage twin-engined sector, but in America the 30 percent of aircraft that can't use unleaded fuel currently use 70 percent of the avgas. They include not just the older twins – Chieftain, Navajo, Baron – but newer aircraft like the Cirrus, which needs the knock protection. A 'dual-fuel' system must be avoided if at all possible because it would impose massive new costs on fuel providers. There are estimated to be more than 167,000 piston aircraft with almost 350,000 engines in the USA alone which cannot run safely on lower-octane fuel.

IAOPA President Craig Fuller said he had

contacted FAA Administrator Randy Babbitt urging him to meet with the group of associations working on the avgas issue and requesting that the FAA become more directly involved. The Environmental Protection Agency had been working almost in isolation on this issue, but the FAA would have to certificate the aircraft and the engines to run on whatever fuel is settled on, and that included a solution for the existing fleet.

Kevin Psutka of the Canadian Owners and Pilots Association said it was important for public and government officials to recognise that over the past 20 years a number of alternative fuels have been demonstrated, but in some cases emissions had been worse. The commercial viability of some alternative fuels was also open to question.

John Sheehan said there were also difficulties with new engines. "We've been limping on for years trying to make the diesel work and we're not there yet," he said. "As to mogas, we have a surprising number of accidents and incidents involving mogas, partly because it's regionally blended to accommodate temperature or moisture in the air; if you're not careful with it you could end up in the weeds."

In Europe, a prime issue is avgas availability. Massimo Levi of AOPA Italy reported that some refineries had stopped producing leaded avgas, and he added: "Even if tomorrow there was a new aviation gasoline, no European manufacturer would be interested in producing it. We see the only chance for the Europeans to go to mogas."

Craig Fuller said that the objective was to find a solution that worked across the board. "If we find a fuel that works across the fleet and across the world, the supply will be assured," he said. "There's a real sense of urgency. We have people working on it intensively, and I believe we can get to a solution. We're confident that we still have a couple of years to arrive at a solution, and several more years to convert." ■

Below: heritage twins like the Beech Baron (left) and new types like the Cirrus cannot easily run on unleaded avgas



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BCPL holders must keep their jobs

The plight of UK BCPL holders who are at risk of losing their livelihoods as instructors under EASA was highlighted at the World Assembly, which urged EASA to ensure that nobody was driven out of a job because of a technical change in the regulations.

AOPA UK's Instructor Committee Chairman Geoffrey Boot made a plea for 'grandfather rights' for BCPL holders who would not be able to continue instructing after 2012 under EASA's system without first undertaking a full Commercial Pilots Licence. "It is a basic human right to earn a living and it cannot be right that new European rules take away the right to continue earning a living on the same basis as before," he said.

The Basic Commercial Pilots Licence was the UK CAA's answer to the requirement introduced by the JAA that flight instructors hold a commercial licence. The fear was that one of the traditional types of instructor – the high-time PPL who had a fund of experience and wanted to instruct, perhaps on retirement – would be supplanted by the

150-hour instructor who had the paper qualifications but no grey hairs. An estimated 700 instructors in the UK are working on the basis of a BCPL, but EASA proposes no equivalent. All those instructors will have to obtain new qualifications, and many of the UK's most experienced instructors would simply give up.

In addition, EASA was proposing that overseas flight instructors must hold a full EASA Instructor Certificate in order to teach for the issue of a European licence by first having completed an approved EASA Flight Instructors course, with all the associated costs, and with no credit whatsoever for existing instructor qualifications.

The World Assembly resolved that IAOPA pursue through the European Commission and EASA the issue of grandfather rights to ensure like replacement of licenses without the requirement for additional training, examination or technical requirements, and to ask the Commission to address the need for instructional flight time credits to apply to overseas flight instructors. ■

It cannot be right that new European rules take away the right to continue earning a living



Groping towards a 'UAS' solution

Recently we mentioned in this magazine that Unmanned Aerial Vehicles were no longer being referred to at ICAO as UAVs but as UASs – Unmanned Aerial Systems, to take into the certification equation the control systems and their integrity. Well, you have to forget that, because ICAO is now referring to them as RPAs, Remotely Piloted Aircraft, in order to satisfy some arcane international language convulsion. This is important because they need to ensure that the pilot, wherever he or she may be, is in the certification loop.

Delegates were taken through an Israeli Aerospace Industries hangar in which every type of UAV – or RPA – was represented, from hand-launched models through rotary-winged treetop cameras to full-sized reconnaissance and attack aircraft. They clearly do a fantastic job, but just how do they integrate with general aviation? The IAI spokesman, a former F-16 squadron commander who had earlier said these UAVs could be flown by a high school student with a PC – unlike the American equivalents which were flown by combat pilots – seemed nonplussed that the question should be asked. In Israel there is no concept of free VFR flight; CVFR (controlled

VFR) is allowed in some areas, but he found the idea of an uncontrolled aircraft with no transponder operating in the Open FIR to be totally alien. Most UAVs are operational in war zones, where general aviation is not a major issue, but there is tremendous pressure to introduce them for civil applications and that pressure is backed by a lot of money.

Another semantic change foreseen by Martin Robinson during a report to the Assembly on future technologies was the replacement of 'see and avoid' with 'detect and avoid', which would be necessary to cope with UAVs. "We need to work more closely with the UAV manufacturers," he said, "and they will be wanting us to install new equipment, which we will not always be able to do – it should be AOPA's goal to retain non-radio VFR into the future."

IAOPA's representative at ICAO Frank Hofmann warned of the tremendous commercial pressure on regulators and governments to allow UASs into civil airspace. "They will get access," he said. "It may be by Notam, through reserved airspace or some form of reclassification, but we need to establish how we will react." ■

Watch your language

ICAO's Language Proficiency Requirements are little more than a nuisance in Britain, but elsewhere in the world they are becoming a major drag on general aviation. Pilots must attain Level Four – conversational English – before they can cross an international boundary. AOPA Italy's Massimo Levi outlined (in excellent English) the situation in Italy where a private company has been hired to administer English tests and is charging €150 for each, on top of whatever you have to spend on your English lessons. "Even native English speakers have been unable to attain Level Six, the top level," he said. "If you are Level Six the qualification lasts for life, anything less than that must be renewed every three years. So the incentive is for the company not to give Level Six, so pilots have to keep coming back and paying for another test."

ICAO's Chief of Operations Mitchell Fox held out little hope of any alleviation. In conversation, he cited the case of Russian air traffic controllers in remote parts of Siberia who had managed to learn enough English, and indicated that if they could do it, anybody could. But there is a gulf of difference between a professional air traffic controller and a Serbian GA pilot who flies 30 hours a year, but who must learn English to a conversational level in order to cross the border into Italy or Austria. To put it into perspective, imagine if you had to learn conversational Serbo-Croat in order to fly to France? IAOPA fought for years for VFR pilots be required to attain only Level Three, which covers enough English to handle ATC, but ICAO was unbending. Now several states have finessed the issue by awarding all their ATPLs Level Six as of right, however bad their English; the Americans have done this, and, it is said, the Chinese. France has retaliated by making more and more of its airfields "French only this channel..." Elsewhere the issue has simply become a disreputable money-making racket, and the cause of safety has not been advanced one inch. Thank you, ICAO.

'Israel will rise to the GA challenge'

Major General Giora Romm, Director General of the Israeli CAA, comes across as someone you'd like to put in charge of EASA or ICAO – an iconoclast with a direct manner and little time for time-servers, political manoeuvrers or jobsworths. If his deeds match his words, the future for Israeli general aviation is bright, and IAOPA will await developments with a keen interest.

A former Deputy Commander of the Israeli Air Force, he was Israel's top fighter ace during the Six Day War of 1967 with five confirmed kills, flying a Mirage, and he spent time as a prisoner of war in Egypt after being shot down and wounded in 1969 in combat with a MiG-21. He retired from the Air Force in 1996 and held a number of government jobs, but when he was offered the CAA post, he says, he was very wary.

"When the Minister of Transport offered me the job he said the CAA was in a steep dive and heading for a crash, but what he didn't realise was that it had crashed 20 years before," he told delegates. "I spoke to my friends in aviation, and they all said, don't touch it. But my wife ordered me to take the job, and it has been one of the most challenging, interesting, and satisfying things I've done in my life – and I did some unbelievable things.

"My first job was to rebuild the CAA. We have doubled the staff and have some very good people, some excellent people. We made a lot of changes. Some people talked to me about aviation, I reacted badly. I said, 'You don't know shit about aviation, and for years you use your authority without any responsibility'. It's been a paradigm shift for them.

"We want to strengthen GA in Israel, invest more in ground facilities and infrastructure so civil pilots will be able to use and enjoy their flights more than they do now. We will fight for reducing the cost of the flight hour, which is the basic element of safety.

"I look at general aviation and I don't like what I see, particularly when it comes to maintenance. Standards are not high enough. For pilots, first, we don't fly enough. Safety is a function of experience and

the flight hours you have in your log book. I think as a result, proficiency of GA pilots is not satisfactory, performance level is not satisfactory. But this is a very fundamental part of any pilot's character – you are never satisfied with your performance, with anyone's performance, you think you should have performed better, you try to be a better pilot the following day.

"There is a growing gap between the technology and the flight performance of pilots, the glass cockpit, the more powerful engines are changing the nature of flying. I made my conversion to the F-16 when I was 38 when I became Wing Commander, then I went on to the F-15, and I knew that when it comes to 'hands on throttle and stick' that 23, 24 and 25 year old captains were faster, quicker than me. The only thing I brought was experience, maturity, the fact that I have seen a lot in my life. But when it came to operating the vast amount of data given to the pilot, I was way behind. On our first F-15s the computer used to be 32k, and it was amazing! Now we talk about megabytes, they say anyone with six fingers can fly the F-16.

"But the same applies to GA – when I read incident reports, I can see that technology comes faster than the pilots can cope, and I have to respond to it as a regulator. I want the more advanced technology but I don't want to see safety issues arising from the fact that the pilot is so slow in reacting to the data that he is neglecting the flying of his aircraft."

Maj Gen Romm spoke about the special challenges of integrating GA in a country where the Air Force is so dominant, and where UAVs are present in large numbers at every level. Aviation in Israel, he said, traditionally meant the Israeli Air Force – "a special entity in Israel, philosophically the cornerstone of the defence of the state, with its own culture, norms, standards and performance, and they are very different from many aspects of the country... it is larger than the RAF or the French Air Force, the Israeli Air Force is one of the unbelievable

achievements of Israel. Civil aviation has been neglected for many years, and what I'm trying to do is to change perceptions.

"GA is a source of expertise and technical skill for the country, but flying is also one of the expressions of the freedom of the human being. The sensation of taking off – if you never did it, you cannot explain to anyone who never did it in his life. It happened to me the second the gear came up in the F-16; only when you are airborne do you get a different sensation of freedom in a three dimensional world. It's something only very few people know have the privilege of feeling and I think it is a very important part of the life of the country."

From left, Rafael Harpax, Director of the Economics Department at the Israel Ministry of Foreign Affairs, Giora Romm, Director of the Israeli CAA, IAOPA President Craig Fuller and AOPA Israel President Yaron Efrat



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A free safety lesson from the experts

John and Martha King have crashed enough aircraft to be fully qualified to tell those who have yet to crash how to avoid doing so

General aviation has spent too long training pilots to cope with situations that don't arise while neglecting to teach decision-making skills which save lives, according to John and Martha King, whose pilot training courses have been used by tens of thousands of flying students worldwide.

The Kings are both ATPs who hold every rating, fixed-wing and rotary, that it's possible to earn in the United States. They have been AOPA members for decades and have not missed the last seven biennial World Assemblies. In a presentation on GA safety, the pair said that if an order of magnitude change is to be made in GA safety, we have to crack the code that tells us what goes on in our own minds.

A show of hands indicated that 80 percent of delegates knew someone who had been killed in a GA aircraft. "We can't allow this to continue for a number of reasons – firstly we are losing our friends, and secondly, we are ourselves at risk. But if we don't reduce our accident rate, the politicians and the bureaucrats will try to reduce it for us, and you know what that means..."

"GA has failed at risk management and can do better," said John King. "We've been telling the Big Lie so long we believe it – that is, 'the most dangerous part of the trip is the drive to the airport.' Most pilots truly believe this. But in the US you are seven times per mile likely to be involved in a fatality in a GA plane than in a car. GA is 49 times less safe than the airlines. Motorcycles and GA airplanes have similar fatality rates. I always thought anybody who rode a motorcycle was a damned fool, but we like to operate from the standpoint that everybody's a damned fool for 15 minutes a day."

The Kings' presentation was slick and well-practised, reflecting the fact that they've been in the teaching game together for decades – King Schools is 35 years old. They batted the topic seamlessly back and forth, with one picking up where the other left off, and I lost track of who was saying what... but not a word was wasted, and here's the chopped-down gist of what they said:

Historically the way we have taught and practised risk management has been flawed. 85% of accidents are caused by a failure in risk management – the pilot let the airplane down, not the other way round. Our training focuses on flying skill, not on risk management.

When students leave the flight training environment the accident rate jumps by about 50 percent – 5.8 accidents per 100,000 hours for students, 8.5 for new PPLs, despite the fact that the manoeuvres are riskier. That's because the instructor is better able to exercise good risk management in training; that risk management ability is not well transferred to students. We do it by telling stories – old saws about having too much fuel only when you're on fire, the uselessness of runway behind and altitude below, better to be down here wishing you were up there – but that's not a training system. Most of us learn risk management by scaring ourselves silly. If something's not scary, it ends

up in the 'acceptable' pile, but you might just have got away with it. Experience is a hard teacher – you get the exam first and the lesson afterwards, if you survive the test.

Watch a new student pre-flight an airplane. They'll do it the way the barnstormers did it, that's how it's been passed down. We're preflighting for things that don't cause accidents and failing to deal with things that do. One risk factor is our own goal-orientated character, and you need to look at yourself the way you pre-flight a plane. The acronym PAVE (almost) stands for Pilot, Aircraft, enVironment, and External pressures. Think about it long before you get to the airfield. Under 'Pilot', use the well-known 'IM SAFE' acronym – illness, medication, stress, alcohol, fatigue, emotion. If you're angry at the taxman, don't get in a plane. Are you current in the plane and up to the conditions?

Aircraft – is the plane capable? Does it have the range, can it make the altitude, does it have the kit. Don't learn about density altitude the hard way.

Environment covers the terrain, the airspace, the weather. At night, pre-flight differently – don't find the panel lights don't work as it starts to get dark. And 'external pressures' – if you're meeting someone, say you'll be there an hour later than you plan to be. That way there'll be less need to rush when something unexpected delays you. The Kings always taken an overnight bag, so

they're never desperate to get home. Airlines cancel trips all the time – why can't you?

Another acronym, CARE – for use en route. Consequences, Alternatives, Reality, and again, External pressures. Consequences means updating your situational awareness; the closer you get to your destination, the harder it is to give up on getting there. But if unforecast winds are against you, you're going to be later, lower on fuel, it might be dark, and the weather may well be worse than you expected. As you fly on, your circle of 'Alternatives' get smaller and smaller, until finally it's the size of your fuel reserve. It should be a no-brainer to land, fuel up and re-expand that circle of alternatives. Point worth noting: fuel gauges are required by law to read accurately only when they are empty. Then comes 'reality' – deal with things as they really are, not the way you planned them to be. In IMC flight, pilots can spend so much time memorising the flight and planning that they are no longer capable of being flexible, and when weather or icing turns against them, they stick to the plan. When things change, change your plan. And once again, 'external pressures'. Any time you feel like you're in a hurry, external pressures are getting to you. Time to stop and think carefully about what you're doing.

The final question to ask yourself before a flight is: Would I be doing this if I had 100 paying passengers behind me? If the answer is 'no', turn around and go home. ■



Martha and John King, who run the successful King Schools for pilots at all levels

'Did you pack your bag yourself?'

'Security' has become a major drag on general aviation as the sort of Bovine box-ticking that makes airline travel such a pain is increasingly imposed on non-commercial flying. Yaron Efrat, Chairman of AOPA Israel, gave examples of how security had gone far beyond the bounds of common sense in his country.

"Logic doesn't work, arguments change nothing, and there is no understanding," he said. "Two pilots flew from Herzliya to Haifa in a C172. They didn't know that security regulations at Haifa dictated that you had to have a ticket to fly. When they returned to the airport to fly home, security demanded to see their tickets. Of course, they had none. They pointed out their aircraft on the apron, they showed the guards the keys, they gave them their pilots' licences – which did not, unfortunately, have the word 'ticket' on them. They had to go home in a taxi.

"A guy went to Herzliya to take his daughter flying as a treat in a rented C152. At the gate security went through his pockets as usual and asked him 'Did you pack everything yourself?' Unfortunately his daughter was too young to have ID. Security said this was a severe risk, but offered to accompany them on the flight in order to ensure there was no attack on the pilot. They protested that the 152 had only two seats. 'No problem,' said the security man, 'one for you, one for me.'

"A decree came out that we had to put a 20kg wheel clamp on every aircraft. It was huge, must have been designed for a tractor, but you had to carry it with you to immobilise the aircraft at your destination. We said it would affect weight and balance, but they didn't care. We protested to

the Minister of Transport, then found out it was his idea. We said it was dangerous because it couldn't be tied down, but they said it was too heavy to move around in flight. Not until one of them went through the windscreen during a stall did they listen to us. We were then allowed to immobilise aircraft with a small throttle lock.

"We had an aircraft coming back into Israel and ATC lost his flight plan, so they found F-16s formatting on them 80 miles out. He was ordered to go back to Crete. Heraklion is 595 miles away. The pilot refused – he didn't have the fuel. So he was forced to land at an Air Force base in the desert. What if he'd had radio failure? Would he have been shot down?"

Tony Rees, President of AOPA Botswana, reported that a GA pilot is unable to take a bottle of water aboard a single-engined plane for a three-and-a-half-hour flight in the hot sun from Maun to Gaborone because it contravenes security restrictions that allow only 100ml of fluid or less aboard a plane. "What exactly do they think he's going to do with it?" he asked.

Roland Becker of AOPA Switzerland, a GA pilot for 17 years and a senior project manager at Zurich airport, said part of the problem was that the public and politicians did not distinguish between safety and

security. Suicides involving GA aircraft in Tampa, Florida, and Austin, Texas, had reinforced the fact that general aviation was a poor choice for a terrorist spectacular; nonetheless there was always political pressure for new restrictions. ■



Above: Tony Rees of AOPA Botswana – no water allowed on the aircraft

How to save money

Time to get down to the nitty-gritty – money. Across the world, costs are increasing beyond the ability of many in general aviation to cope, cutting numbers, reducing traffic, increasing the burden of cost on those who remain. Tom Haines, Senior Vice President of AOPA US and editor in chief of their magazines, set out some of the cost drivers which shrink GA, close airports and affect safety. "Burdensome regulations, avgas prices, airspace restrictions, an ageing fleet, product liability costs which are a major factor in the USA – in the face of competitive leisure activities, these are helping to kill GA," he said.

Allowing for inflation since the early 1970s, a Cessna 172 should cost \$95,000 today. In fact it costs nearer \$250,000. "In 1972, 12 companies shipped 15,000 aircraft worth \$1.2 billion," Mr Haines said. "In 2009, 21 companies shipped 2,276 aircraft valued at \$19 billion. In a weaker industry, companies have less incentive to invest, and consumers face higher costs and fewer choices."

What can be done? "If we can improve safety, our costs would go down," he went on. "Flying safely means reduced insurance costs – fewer accidents might well mean less regulation and oversight, with commensurate cost reduction."

For the individual owner and pilot, here are a few of Mr Haines' cost reduction tips.

- Buy covers and keep your aircraft outside to save hangarage. Not suitable for all aircraft



and circumstances, but worth thinking about for many.

- Sole ownership is seldom justified; investigate partnerships, group operations or fractional ownership. "A \$125,000 plane will cost \$25,000 a year to operate," Mr Haines said. "Partnership cuts cost in half, but be sure to buy the back end because the engine is where a lot of the money goes."
- If you live in a cold climate, instead of an engine heater, try putting a light bulb under the cowling.
- Quality tyres may be better for individual owners; they last longer than retreads, but you must maintain proper pressure.
- Try DIY maintenance. You're allowed to do more than you think – it's not just oil changes. And it helps you bond with your aircraft.



- Make the most of back-seat learning. Sit in the back during other people's flights and see what you can learn.
- And (at the risk of starting a fight) fly lean of peak. Mr Haines says: "You'll get lower operating temperatures and significant fuel

savings – as much as five gallons per hour in my airplane. You'll need balanced fuel injectors, an engine monitoring system and a certain amount of pilot education because you need to understand what you're doing. Most people fly just rich of peak, but Lycoming came out last year in support of lean of peak operation."

- One of the greatest contributions you can make to cost reduction is to recruit another pilot. "More consumers, more political clout, better access to airspace and everything else – introduce others to aviation and we all benefit."

Massimo Levi of AOPA Italy added his own observations:

- An aircraft will depreciate by 30 to 40% of the paid price in the first couple of years, then will stabilise after 50 percent. After 10 years, depreciation will match inflation. Maintain it properly, keep it clean (a dirty aircraft can cost 2% more fuel), protect it from humidity, sun, heat and cold.
- Fly at 60% power, trim correctly and distribute weights properly, choose your altitude to make the most of the wind.
- If you only fly it yourself, insure it for single pilot operation, save up to 30 percent on premium. Tell your insurer whenever you do a training course or otherwise improve your experience. Make sure you get competitive insurance quotes.

Unfortunately, you can't fight bureaucracy. In many cases, Mr Levi said, paperwork connected to maintenance costs more than the maintenance itself.

Martin Robinson suggested the US and Europe could improve the picture by getting the EC and the Department of Transportation together to agree bilaterals on certification. "FAA STCs are not accepted by EASA," he said. "A prop or an engine has to be recertified under the EASA process at enormous cost. There should be no need." ■



Nowhere to land

GA airports have been disappearing for decades and are now vanishing at an alarming rate – one a week in the United States, IAOPA General Secretary John Sheehan told delegates. They fell to government action, real estate development, upset neighbours and a host of other reasons, but it was increasingly difficult for aspiring pilots to find somewhere close to home to learn to fly.

In Canada, the AOPA equivalent COPA has saved a number of airfields by demonstrating that their closure would result in substantial financial loss to the community. COPA's CEO Kevin Psutka explained that of the 730 airfields in Canada only 80 were served by the airlines and the vast majority of aircraft in the country are GA. Before 1994 the Canadian government owned and operated some 230 airports and there was a sense of a national system with federal support. But then it sold all but 26 of the largest airports, and handed the ones it retained over to local operators.

The 26 retained airports, which handle 96 percent of the country's passengers, are deemed to be 'cash cows' for the government,

and operators have been forced to ramp up the fees. They've paid the government \$2.5 billion, none of which is earmarked for aviation. GA has been chased out by fees. Interest has been lost in the satellite airports which do not generate large amounts of cash, and the sense of a national system has been lost.

"General aviation airfields are part of the transport infrastructure because much of the country can only be accessed by small aircraft, but that argument doesn't carry enough weight," said Mr Psutka.

Economic impact studies carried out by accountancy professionals almost invariably showed that GA airfields generated value far in excess of their costs. For example, the city of Oshawa in Ontario wanted to close its airfield to save \$160,000 a year. COPA was able to demonstrate that the direct and indirect value of the airfield to the city was \$58 million a year. "At even one tenth of that figure it was well worth it," he said.

For AOPA Germany, Sibylle Glassig-Deiss reported on the situation at Munich's general aviation airfield Furstenfeldbrück, which car

company BMW wants to take over as a test track. There are no comparable GA alternatives within 100km. "AOPA Germany and local pilots were promised an alternative would be found for GA in 1990, but all promises were broken. The airport is open to the public but only on weekdays, and we are fighting the government and local administration in court. We have captured BMW's attention by asking pilots to think twice before buying their cars, and they have received thousands of angry emails, letters and calls.

"We think it is always worth fighting against someone who wants to take away GA airports. Perhaps we will succeed, perhaps not, but we may deter someone else from trying the same thing."

Moshe Tamor, manager of Dov Hoze Airport north of Tel Aviv, said the major external pressures on his airport were environment and land. "We have the support of the Mayor of Tel Aviv who says a metropolis without an airport is not a metropolis, but we have 790,000 square metres in the most expensive land in the country. There has to be an economic balance – we earn almost nothing in domestic airports, but I can say that as long as there is no alternative, those airports will not be closed. I don't see big change in 10 to 15 years." ■

A world of difference

Some of the more exotic AOPA delegates gave accounts of general aviation in their own countries. No-one has faced more obstacles than Hae Woon Lee, President of AOPA South Korea, where private aviation was forbidden until 1998 and the government would not allow GA aircraft to be imported. In that year Mr Lee bought a Korean-registered Cessna 210 that

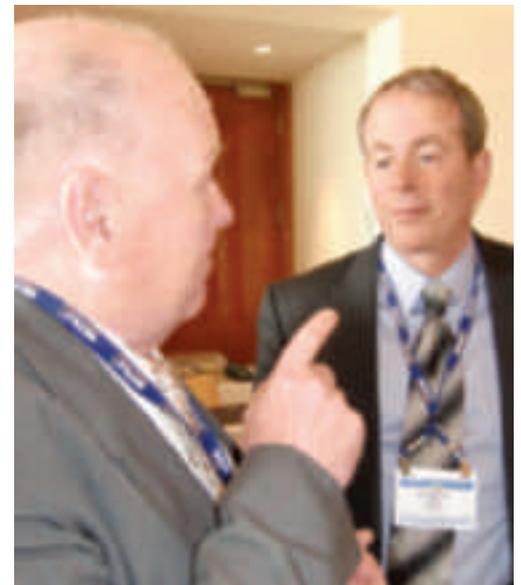


AOPA Korea's Hae Woon Lee, who has moved mountains to introduce GA to his country

had once been owned by a hotel group but had lain derelict for ten years. It was a mess, but it had that all-important Korean call-sign. He spent five years making it airworthy, and with it he forced a gap in the mountain of red tape through which some 19 GA aircraft are now flying some 3,000 hours a year in Korea, and the establishment of a general aviation airfield is under discussion. "Fight, negotiate, propose, comply," Mr Lee said in describing his approach. "We still have difficulties. We are still establishing maintenance facilities. It takes two days to get landing permissions. When AOPA Japan flew in, we had to issue them with tickets. But people in Korea had never experienced general aviation, never touched or even seen a GA airplane close up. Now they can."

Tony Rees of AOPA Botswana is Regional Vice President for Africa and the Indian Ocean and sits on the Board of the Botswanan CAA. He described a country the size of France with a population of 1.8 million, mostly in the cities. "Lots of wide open space and a real need for general aviation," he said. "65 percent of the country is the Kalahari Desert. Botswana has the two largest diamond mines in the world and highest per capita income in Africa." The potential for GA was there, but costs were rising rapidly. Of the 184 aircraft registered, 88 were GA, but the number of private pilots had fallen to 103. Even so, Botswana was a bright spot in Africa; the President, Ian Khama, was a pilot who flew a King Air and a Global Express, liked to fly his paramotor before breakfast, and attended fly-ins.

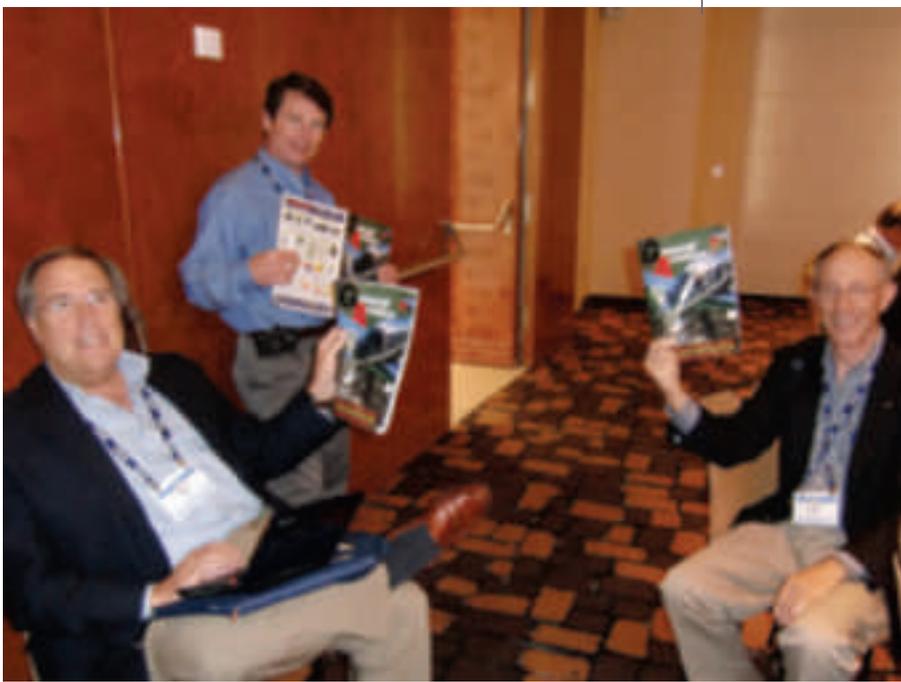
Over Africa as a whole the number of GA aircraft was guesstimated at 15 to 20,000. There were 12 accidents per million departures, compared to a worldwide average of 1.2. Infrastructure was in decay, nav aids were collapsing, engineering practises were unsafe, oversight ineffective, corruption and political interference rife. Some countries had unauthorised and unregistered pilot training, security was lax and ad hoc, and the prospects for early improvement did not look good.



Lennart Persson of AOPA Sweden makes his point to ICAO's Mitchell Fox



Arimori Yamagata of AOPA Japan with Peggy van Ootmarsum of AOPA Netherlands



Above: IAOPA President Craig Fuller, Editor in Chief Tom Haines and Air Safety Foundation President Bruce Landsberg with their favourite magazine, General Aviation

Stand and deliver

Across the world, the story on fees and charges is the same – too much money demanded by too many bureaucrats to look over the shoulders of pilots and owners and make silly demands. Philippe Hauser of AOPA Switzerland said his regulator charge d €165,000 for a first AOC issue and up to €33,000 for a renewal; an airworthiness check on a single aircraft cost up to €5,300. PPL issue was €360, an IR was €460, a language proficiency check €50.

“Recommendations by manufacturers automatically become mandatory in Switzerland,” he said. “Cost of paperwork is extortionate. If you change to Mode S, for example, 20 percent of the cost is the engineer’s fee, 80 percent is the regulator’s. What’s the difference between a Cessna 152 and a touring motor glider? They both use the same engine – but one must have Mode S, the other not. Flying from Switzerland to France you must have a fixed ELT on board because you’re crossing a national boundary, but you do not need a fixed ELT either in Switzerland or in France. And for this they charge money.”

Isei Imahashi of AOPA Japan reported that the number of GA pilots in Japan had reduced because of high fees, while the fees had gone up as the number of pilots reduced. “An airworthiness inspection is \$6,500 a year for a Cessna 172,” he said. “A 50-hour check is \$850. The avionics check by the Electronic Wave Administration Bureau is \$2000 a year. Insurance is \$6000 per year. Then you start the engine.”

He told the story of a German pilot living in Japan who imported a DA42. The Japanese Civil Aviation Bureau took two tedious and expensive years to certify the aircraft. Their demands included the translation of the Pilots Operating Handbook into Japanese. “They are extremely keen that pilots attain Language Proficiency in English,” said Mr Imahashi. “Why then can English not be the language of the POH?”

John Sheehan warned that the picture in Europe was not going to be pretty. “EASA is going to be a fee-for-service agency,” he said. “There are some astoundingly high fees for certification or airworthiness recertification on an annual basis. It’s amazing where they dream up these costs. The rest of the world has the same problem.”

IAOPA’s biggest success on costs, it was said, was the preservation of the exemption from en route charges for sub-two-tonne aircraft, something that had been retained in the face of strong opposition from the airlines. ■

Below: some of the IAOPA delegates in the World Assembly conference hall



At His Majesty’s Pleasure...

In a debate on effective advocacy Martin Robinson outlined the political structure in Europe and the complex and inter-related avenues through which lobbying had to be undertaken, and stressed that risk-based regulation had to be based on facts and proven data, and the urge to regulate for its own sake had to be resisted. Readers of *General Aviation* will be familiar with his presentation, but not with that of Israeli AOPA President Yaron Efrat, who outlined the odd situation of civil aviation in Israel.

Two years before, the FAA had performed a safety audit on Israel and had reduced it to Category 2, which meant it was failing to perform the minimum safety oversight of civil aviation. This was a shock to the country, so the ANO was dusted off and looked at. It turned out that the ANO still contained phrases like ‘as His Majesty may decide’ – it dated from the British Mandate in the 1930s.

“So then we just translated the FAA into Hebrew,” Mr Efrat said. “Some of the translation didn’t work, and they got words like ‘not’ omitted in some places, and we got the opposite meaning, except where they put the ‘not’ where it shouldn’t be and the result was disaster.

“They started again with Air Law, and we insisted we wanted to be part of the consultation before the regulation was taken to the Knesset to become law. For the first time, the chief of the CAA agreed. What they’d done was cut and paste of all sorts of regulations from here, there and everywhere. We said, this is not even a basis for negotiation, why not take the FARs as a basis to begin with? They refused, so we wrote our own regulations, sent them to the CAA and got no reply. We asked for a meeting and they sent a lady lawyer and seven officials, who all said ‘no’ to everything we proposed.

“We tried another approach. Every regulation should be approved by a committee of the Knesset, so we approached the politicians and told them we hadn’t been listened to. The CAA was forced to sit down with us again. You have to nag – it’s not polite, but it’s a must. You have to call them once, twice, ten times.

“Officials are very lazy, they don’t like to work, so do the job for them. Offer immediately the wording of what you think is necessary. Always use politicians to put pressure on them. You also need co-operation and alliances with big and strong organisations – the new Israeli air law was written with El Al, Israeli Air Force, professional pilots organisation.

“Massage their egos – tell them they’re great, it’s perfect, just change one small thing here... Give them all the credit, make them think they thought of it, tell them they did it. With officials of low rank, tell their superiors that they did a great job. Keep repeating something until they think it’s true. And above all, never, never surrender.” ■



Looking to the future

Delegates were asked to do some crystal ball gazing to foresee what GA will look like five years hence – always a good way of making an exhibition of yourself. IAOPA Senior Vice President Martin Robinson drew the short straw and began by stressing that whatever new aids, systems and equipment were introduced, regulators must realise that the airspace had to remain available to heritage aircraft.

“A B-17 can't evolve,” he said. “You can't load kit onto a Tiger Moth. People will still want to fly vintage aircraft, and the existing

Why the split? One would hope there could be simplified certification for aircraft below 2,500 kg, but regulation without logic will continue to be a burden.

“As the cost of landing, hangarage and insurance all rise, people will move to smaller farm strips with better access and fewer security issues. Fuels will change. Avgas use in Europe is tiny – in the UK, GA use in a year is the equivalent of what one busy London garage dispenses in four hours. Return on investment for the petroleum industry is tiny, and a number of refiners have stopped producing avgas. Diesel engines will become the norm, but the EU is bringing forward new directives on fuel tax which remove the advantage of moving to diesel.

“We will have 8.33 MHz radios in Europe, Mode-S will spread, and the military will want to keep ground-based radar. Egnos, the European Wide Area Augmentation System for satellite navigation, is being certified. Galileo will be going online, but the real challenge is spiralling costs, which could make all this moot.

“And what about the year 2115? Will GA be an Xbox game? Will we have the 'C172EM', with an electric motor? Will it be solar powered, will the pilot be able to choose his engine noise? The only certain thing is that man will still have the urge to fly.”

Environmental issues will increasingly impinge on aviation in the very near future, with the International Civil Aviation Organisation at the forefront of moves to reduce emissions, according to IAOPA's representative at ICAO, Frank Hofmann. “There is a preoccupation at ICAO with atmospheric emissions, particularly CO₂,” Mr Hofmann said. “We have to address the greenhouse issues because the day will come, and we should get our story straight about what we're doing to minimise emissions.”

GA was an easier target than airlines, he

went on. “Airlines don't really have a face. An irate citizen can't knock on a door and get a hearing. But GA is individual owners, and if your neighbours know you fly a noisy airplane you're directly in the firing line.

Brave new world

There will certainly be a shift on the centre of gravity of general aviation across the world as its decline in the West is counterbalanced by a rise in Asia. The potential for GA growth there is phenomenal. More than 60 percent of the world's population lives in Asia, they are rapidly becoming more affluent, and there is a growing requirement for all forms of travel. Capt Geronimo Amurao, Vice President of AOPA Asia Pacific, gave an overview of how GA was faring in developing countries. “Asia's population doubled to four billion during the 20th century,” he said. “Progress and geography mean that general aviation is the answer to many communications problems. In my country, the Philippines, we have 300,000 sq km and 7,100 islands. The people speak more than 100 dialects but English is widely spoken. Asia has third largest GDP after North America and Europe and it is growing rapidly. The largest economy is China, followed by Japan, India, South Korea and Indonesia. China was the largest and most advanced economy in the world until the British Empire took over in the 19th century, and by 2050 it should once again be the largest economy. India is forecast to overtake Japan by 2020. South Korea will have overtaken UK and Germany.”

Trade blocs and free trade zones had been established to encourage investment, minimise difficulties, reduce or eliminate visa requirements, cut down customs delays and ease the passage of passengers and cargo, he said. Many countries are rich in natural resources and have strong manufacturing-based economies. General aviation was slowly shaking off the shackles of unreasonable restricted and regulation, the opposite of what was happening in Europe. “To see a bright future for general aviation, you must look east,” he said. ■



Richard Travis

Above: 'people will move to smaller farm strips with better access and fewer security issues.'

fleet must always be taken into account. IAOPA must defend the rights of VFR non-radio.”

The environment will become an ever more important factor. “From 2012 there will be €9 billion of emissions trading system fees on airlines in Europe,” he said. “That's going to skew the air taxi and smaller corporate jet business because they will be exempt from those charges. How will it affect us?

Environmental standards will drive engine and powerplant evolution. Politicians and regulators are mainly driven by the airlines, and GA may get caught up in new regulations which will attempt to deal with that.

“Airport capacity will be another driver. As costs increase, slots become ever more difficult to get. We will move away from ground-based navigation equipment to space-based systems. New legislation for airspace will drive cockpit evolution. GA will need portable, lightweight, low cost equipment.

“Costs will continue to increase, with European regulation continuing to handicap the continent. We have new manufacturing standards for aircraft under 1000 kg, new licensing systems for aircraft below 2,500 kg.



IAOPA General Secretary John Sheehan thanks AOPA Israel's Nathan Sharon for his part in organising the World Assembly

Getting it down on paper

The 25th IAOPA World Assembly passed resolutions covering a wide range of issues. Some debates and resolutions are covered elsewhere in these pages; some resolutions look a little strange to European eyes, but IAOPA is a global organisation and it's a strange world out there. Here's the short version of the final resolutions.

- Resolution 1:** to thank AOPA Israel sincerely for hosting the assembly, arranging sponsorship and working hard to make it a success; specifically, to thank Yaron Efrat, Nathan Sharon, Moshe Akler, Yigal Mairav, Ronen Shapira (Chief Test Pilot of Israeli Aerospace Industries), Jeppesen, and all AOPA Israel volunteers.
- Resolution 2:** to thank the many individuals and organisations who participated or contributed to the Assembly, notably Daniel Calleja Crespo, Director Air Transport, European Commission; Mikolaj Ratajczyk, European Commission, Aviation Safety; Patrick Ky, Director of SESAR; Raymond Benjamin, Secretary General, ICAO; Mitchell Fox, Chief of Operations, ICAO; Moshe Talmor, Dov Hoze Airport Manager, Rafael Harpax, Director, Economics Department, Israel Ministry of Foreign Affairs, and Giora Romm, Director, Israeli CAA.
- Resolution 3:** that AOPAs work with their national authorities to ensure they recognise the contribution non-certified aircraft make to civil aviation; that statistics be gathered to measure their impact on all of aviation; and that the qualifications of pilots and mechanics on such aircraft be recognised towards experience requirements for higher licenses.
- Resolution 4:** that AOPAs devise programmes to educate members regarding the preservation and protection of GA aerodromes, form support groups and actively monitor the viability of their aerodromes.
- Resolution 5:** that IAOPA proposes that ICAO and States remove the requirement for rescue and firefighting services at ICAO Class 1 aerodromes or those with a runway length of less than 1,000 metres.
- Resolution 6:** that IAOPA work with States, commercial air transport operators and training organisations to highlight the fact that all aviation training begins with general aviation, and that ways be devised to foster recruitment and control the cost of training. (Differentials in Europe because of tax treatments were discussed in detail).
- Resolution 7:** that States recognise the potential future pilot shortage and incentivise training by reducing fees and ensuring that aviation fuel taxes fund aviation infrastructure.
- Resolution 8:** that States adopt performance-based evaluation tools to determine the proficiency and competency of pilots and airmen, and require the accreditation of aviation training centres and their training personnel.
- Resolution 9:** that States share responsibility for general aviation aerodromes and research ways in which a network of aerodromes may be established and preserved.
- Resolution 10:** that AOPAs exchange information and develop best practises describing successful approaches that attract individuals to flight training programmes.
- Resolution 11:** that IAOPA communicate to EASA the value of allowing national authorities to retain ratings subject to national laws where there is a demonstrated safety benefit and no equivalent rating is available through EASA regulation, and to encourage other States to consider the safety benefit of a UK IMC Rating equivalent. (See page 5).
- Resolution 12:** that IAOPA pursue through the European Commission and EASA the issue of grandfather rights to ensure like for like replacement of licenses without the requirement for additional training, examination or technical requirements, and to ask the Commission to address the need for instructional flight time credits to apply to overseas flight instructors. (See separate story).
- Resolution 13:** that Europe should recognise that the FAA complies with ICAO standards, has a fully compliant registry with a safety record comparable to that of Europe while offering adequate oversight, and should therefore accept properly registered N-registered aircraft as compliant to operate without further requirements in Europe, where the aircraft is being used for private purposes only.
- Resolution 14:** that IAOPA will pursue at the highest political level the need for Europe and the USA to enact bilateral certification and airworthiness agreements as they may apply to general aviation.
- Resolution 15:** that States be encouraged to include in their Air Transportation Policy a statement that defines an appropriate network of airports to serve general aviation so that it remains a viable mode of transportation for the State.
- Resolution 16:** Amid concern that the FAA and other authorities are looking at the regulation of Light Sport Aircraft, IAOPA seeks to ensure that such aircraft are not drawn into expensive national regulation

systems; if action is required, it should come from ICAO in the form of standards which will allow such aircraft to cross international boundaries.

- Resolution 17:** to urge ICAO, State and military regulatory authorities responsible for classifying airspace to classify airspace at the lowest possible level commensurate with the type of operations conducted; involve stakeholders and use their input when developing airspace classification policies, standards and locations; coordinate airspace classification policy with nearby States and regional groups; and design airspace using risk assessment and cost benefit analysis techniques. ■

Below: delegates from all over the world at the 25th World Assembly – at front is IAOPA General Secretary John Sheehan

