Europe Microlights & LSA info

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Contents

- Present and future development of microlights and LSA.
- Statistical data and graphs.
- Comparison of costs related to certification of microlight and LSA.
- Conclusion
Light Aircraft Association of the Czech Republic is a competent authority for Certification, Licencing and Operation of microlights in the Czech Republic.

This covers paragliding, powered paragliding, hang gliding, gyroplanes, helicopters, weight shift, UL gliders, aerodynamically controlled microlight and 600kg amateur built ELSA.

In this respect it is unique in Europe.

It has 7 000 members and registers 7 900 aircraft and 10 000 pilots.
LAA ČR

Microlights in LAA ČR register as of 1.1.2013
LAMA EUROPE

- non-profit manufacturers association
- founded in 2011
- currently 11 members + 4 supporters
- main task is to lobby for simple and affordable regulation on EU level
- cooperation/coordination with other organisations – GAMA, LAMA, EAS, AOPA etc.
- Member of SSCC, GA SSCC, D&M SSCC
Success of Czech Light Aviation

Key Factors

- foundation of LAA CR in 1990 gave legal framework for all microlight activities including manufacturing

- creation of a certification system within the LAA ČR, offering the acceptable simplicity of certification while providing safety to aircraft design, building and operation.
Selected GA Category Sales 1960-2013

- Increase of sales in 1970-1980 would mean sales of 50 000 to 100 000 aircraft per year!
- Decrease of sales in eighties was connected with the Liability law in the USA.
- Cessna stopped to manufacture single piston engine aircraft
- Economic crisis

Source: Jaroslav Dostal, GAMA & personal research
Success of Light Aviation in Europe

Light x Traditional Aviation Industry today

![Graph showing the comparison between Light and Traditional Aviation Industry over the years from 1989 to 2012. The graph indicates a decrease in Traditional Aviation and an increase in Light Aviation, especially after 2000.]
European Light Aviation Industry

- more than 5,000 employees*
- Annual production around 2,500 airplanes, 2,000 propellers and 1,000 rescue systems*
- **Approximate Annual Turnover 170 milions €** *
- Most of the manufacturers are private and employ up to 25 people.
- main players are currently employing some 50 – 150 workers and have yearly turnovers of 3.5 milions € to 20 milions €.

* Estimation

Data based on personal research and only UL and LSA manufacturers are considered.
European Light Aviation Industry
3-axis controlled Microlight & LSA numbers

Data based on Leisure Aviation Directory and personal research
European Light Aviation Industry

Number of European Microlight & LSA manufacturers by country & year

Data based on Leisure Aviation Directory and personal research
European Light Aviation Industry

Number of European Microlight & LSA types by country & year

Data based on Leisure Aviation Directory and personal research
LSA Statistics – US market

• LSA rules effective from April 2005

• As of 1st January 2014:
  
  • 100 airplanes certified as SLSA (factory build)
  • 54 of them are of European origin
  • 5 new types added in 2012, 2 in 2013
  • Manufactured by 75 companies
  • 39 of them are European companies
  • 2594 planes registered
  • 1440 manufactured in Europe

LSA Statistics – US market

Registered 3-axis control S-LSA as of 1-st January 2014 by country of origin

COUNTRY: No of Aircraft; % of Market

- USA: 992; 38%
- CZECH REPUBLIC: 582; 22%
- GERMANY: 496; 19%
- SLOVAKIA: 85; 3%
- ITALY: 188; 7%
- ROMANIA: 6; 0%
- POLAND: 29; 1%
- SPAIN: 1; 0%
- SLOVENIA: 18; 1%
- UKRAINE/USA: 27; 1%
- INDIA/USA: 25; 1%
- SOUTH AFRICA: 4; 0%
- BRAZIL: 21; 1%
- COLUMBIA: 1; 0%
- AUSTRALIA: 106; 4%
- INDIA: 5; 0%

LSA Statistics – US market

Registered 3-axis control S-LSA aircraft by region by months as of 1-st April 2014
(1-6 and 7-12 month of each year)

LSA Statistics – US market

180 (73 EU)

3-axis control SLSA registered in 2013

- 30% (- 0,04% EU)

Increase against 2012
LSA Statistics – US market

Out of 75

3-axis control SLSA manufacturers

15 companies (9EU)

Have made 80% of Sales
LSA Statistics – US market

Total SLSA US registration versus SLSA from EU FAA registrations 2005 - 2012

GAMA Statistics

GAMA Shipment Piston Aircraft versus SLSA FAA registrations 2005 - 2013

Source: GAMA and personal research
European Microlight Statistics

New Microlight x SLSA Registration Comparison, Czech Republic and Germany 1998-2013

Source: personal research
Czech Light Aviation Export

Estimated export

New ULL registration in LAA CR Register

Source: LAA ČR registry and personal research
EUROPEAN LSA STATISTICS

Difficult to get, due the fact that there is no common European registry.

So far 3 EASA RTC airplanes

Estimated sales April 2012-2014:

50 to 80 airplanes

NO NEW RTC ISSUED BY EASA SINCE APRIL 2012!!!
CASE STUDY

Task:
Identify the delta on Initial Airworthiness costs between LSA (using ASTM standards) and ELA1 (within Part 21, DOA, POA, approvals etc).

Used abbreviations:
ULL - means microlight 3 axis controlled
LSA – US Light Sport Aircraft 3 axis controlled
RTC – EASA restricted type certified light sport aeroplane
DOA – Design Organisation Approval
POA – Production Organisation Approval
CASE STUDY

Delta on certification:
Certification cost does not include development costs.

Cost of certification of:
ULL = 1
LSA = 1,2
RTC = > 2,5 + cost of getting DOA, POA

Now the same calculation in Euro:
ULL = 100 000 Euro
LSA = 120 000 Euro
RTC = > 250 000 + cost of getting DOA, POA
CASE STUDY
DOA & POA Cost
The estimated cost of getting DOA and POA is described in following table:

<table>
<thead>
<tr>
<th></th>
<th>low</th>
<th>max</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 no of employes working on DOA/POA</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>2 Cost of employee for manufacturer/month [EURO]</td>
<td>2 000</td>
<td></td>
</tr>
<tr>
<td>3 Time to establish DOA/POA [months]</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>4 Total cost [EURO]</td>
<td>72 000</td>
<td>240 000</td>
</tr>
</tbody>
</table>

It is visible that the most influential factor is number of the people and the time. I think that the value above are conservative and could be in reality higher. The experience so far shows that the time to establish DOA/POA is closer to 24 months with 5 people working, therefore the total cost would be closer to 240 000 EURO!
CASE STUDY

EASA Fees and charges defined by EC 593/2007

For all activities inside EASA system EASA fees & charges apply. All numbers are 2012 figures and are calculated from 2007 figures using inflation coefficients.

Hourly fee for task charged on an hourly basis 254,02 EURO

Certification / flat fee:
Year fee: 6 773,88 EURO
Year fee for holding a Type Certificate: 1 016,08 EURO
Each change outside DOA privileges: 282,25 EURO

DOA - Design Organisation Approval
One/off fee for DOA: 7 620,62 EURO
Year fee for oversight: 3 810,31 EURO

POA - Production Organisation Approval – so far on national level, so these EASA fees does not apply if the Member state keeps the POA privilegium
One/off fee for POA: 10 160,82 EURO
Year fee for oversight: 7 338,37 EURO
Data for organisation with turnover < 1 milion EURO - the values are much higher for higher turnovers
CASE STUDY

EASA fees&charges are adding additional costs - let's assume that it will take 2 years to certify RTC:

Approval fees
6773 EURO for each year of certification x 2 = 13 546 EURO
One/off fee for DOA: 7 620,62 EURO
One/off fee for POA: 10 160,82 EURO

TOTAL Approval fees = 31 326 EURO
in case that POA is national = 21 166 EURO

SUMMARY

Cost of getting DOA, POA = 72 000 up to 240 000 EURO
Approval fee = 21 166 EURO

TOTAL Cost of DOA&POA = 93 166 up to 261 166 EURO
CASE STUDY

Surveillance fees

In following years the manufacturer will pay every year Surveillance fees:
Year fee for holding a Type Certificate: 1 016,08 EURO
DOA Surveillance fee 3 810,31 EURO
POA Surveillance fee 7 338,37 EURO

TOTAL Surveillance fees = 12 164 EURO,
in case that POA is national = 4 826 EURO
Cost of certification of RTC = > 250 000 EURO + cost of getting DOA, POA = 250 000 + (93 166 up to 261 166) = 343 166 up to 511 166 EURO
If the cost of LSA certification = 100 000 EURO then the Delta between LSA and RTC is 243 166 up to 411 166 EURO
CASE STUDY

The significant difference in Initial Airworthiness Cost between LSA and RTC is caused mostly by the cost of getting DOA and POA under EASA system.

Yearly running cost of EASA RTC system is also significantly higher than US LSA system.

This is just example why the EU LSA system is not working as it is desirable.
CONCLUSION

• The problems are not in Initial Airworthiness.
• Need for complete LSA system – ASAP!!
• Keep it simple!
• Ensure Harmonization with FAA as much as possible.
• Burden for Certification and Production of LSA should not be excessive higher than for Microlight in CZ, GER, (UK).
• Safety level should be not less than in these countries.
• Project should not at all affect current Annex II Microlight aircraft
CONCLUSION

• We had many initiatives in past and also recently.
• Our problem is how do we make them to happen!
• We are ready to help EASA, but please, do it right this time!
We need good European legislation

COMPLETE PACKAGE for European LSA

- Airworthiness based on ASTM F2245
- Licencing (simple medical)
- Operations (definition commercial)
- Maintenance

Success only if this will be ballanced
I just hope that we will not end up as the pilot on the picture..
Thank You for Your attention!

If You have questions, visit LAA ČR at Hall B1, Stand B1-106

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