# OSTIV 25 Years: 1948–1973

By L. A. de Lange, President OSTIV

**Prehistory**

Soaring flights performed in the years 1920–1925 made little impression on the meteorologists, since they were made in the already well-known up-currents along ridges, which arise when the wind blows perpendicular or nearly perpendicular to the ridge. This phenomenon did not hold any secret for them. The image changed when Max Kegel on August 12, 1926 made a flight of 55.3 km along the squall line of a thunderstorm, and when Johann Nehring in the same year soared for hours, flying from mountain ridge to mountain ridge, in winds too weak (1–2 m/s) to permit ridge soaring. These flights greatly interested the meteorologists and led to a close cooperation between meteorologists and soaring pilots, and thus between **science** and **practice.**

The sailplane, becoming an unsuspected practical instrument for meteorological research, began then to draw the attention of aerodynamicists, aircraft constructors and flight instrument designers, and thereby became a flying model for aeronautical research.

In the period 1927–1930, great strides were made in the development of soaring – especially in Germany – in the course of which **scientific** and **technical** research went hand in hand with the **practice** of soaring flight. The discovery of new sources of up-currents in the atmosphere (thermals, and other up-currents in and near clouds), the aerodynamical and constructive improvements effected on sailplanes, as well as the introduction of winch launching and aero towing opened unprecedented possibilities for a world wide soaring movement. It was therefore not by chance that the first international soaring organization – ISTUS (International Study Organization for Soaring) – was formed in 1930 with the object of bringing into closer contact with one another the specialists of those nations engaged in soaring, with the purpose of furthering the development of soaring by exchanging experience and friendly cooperation.

On the initiative of Prof. Georgii, director of the then Research Institute of the Rhön-Rossitten-Gesellschaft, the representatives of seven nations (Belgium, France, Germany, Great Britain, Holland, Hungary and Italy) assembled at Darmstadt (Germany), and founded ISTUS on March 10, 1930. The **council** consisted of Prof. Georgii, **President,** Col. Massaux (Belgium), Ing. Massenet (France) and Col. The Master of Sempill (Great Britain), **Vice-Presidents,** C.H. Lowe-Wylde (Great Britain), Prof. Dr.-Ing. Van der Maas (Holland), Major-General Nannini (Italy) and Lt. Col. Czapary (Hungary), **Members.** As **Secretary-General** was appointed Dr. Graf von Ysenburg, director of the Rhön-Rossitten-Gesellschaft (Germany).

The FAI (Fédération Aéronautique Internationale), being the supreme air sport authority in the world, restricted its activities in the field of soaring exclusively to approval and registration of world soaring records, on which the FAI had decided in its General Conference of 1925. As a result, ISTUS became the leading international soaring organization, dealing with the **scientific** and **technical** problems as well as the **sporting** aspects of soaring.

In view of this situation it is understandable that ISTUS introduced special international badges for sporting distinctions (Silver badge in 1931 and Gold badge in 1937, soon becoming known as Silver C and Gold C respectively), held under its auspices soaring demonstrations and contests, both in connection with ISTUS Congresses (Budapest 1936, Salzburg 1937, Berne 1938 and Lwow 1939), and created – not only for exceptional scientific and technical achievements, but also for extraordinary **sporting** performances – the illustrious golden ISTUS-Ring. This ring has been awarded four times (to Lajos Rotter in 1937, to Walter Georgii and Paul Steinig in 1938, and to Alexander Lippisch in 1939).

At the instigation of ISTUS, the General Conference of FAI decided on January 15, 1932 to set up – as an advisory committee for soaring matters – the «Commission du Vol sans Moteur», the CVSM (some years ago renamed CIVV), which at its first meeting already passed some important resolutions concerning rules for soaring records, and the brevets A, B and C. In this connection the Sporting Code of FAI had been brought into line with practice.

The recommendations of CVSM, prepared by ISTUS, were adopted by the General Conference of FAI and so came into effect for all its active members. There was a good, also personal contact between ISTUS and CVSM: the President of ISTUS and the President of CVSM were the same person (Prof. Georgii), whilst several officers of ISTUS formed part of CVSM, (Massenet, Massaux, The Master of Sempill, Dr. Graf von Ysenburg).

The first general assembly of ISTUS, after the formation meeting on March 10, 1930, was held in London on October 1 and 2, 1931.

It was in this meeting that the representatives decided, in order to demonstrate the international cooperation in the soaring world, to use internationally the German badge (white seagulls on a blue enamelled background) with the initials of the specific nation at the top – except for the original German badge and the Silver C which should be smaller and get a silver garland.

The A and B badges, which would be given by the National Aero Clubs, one and two seagulls respectively; the C badge, to be delivered by FAI, three gulls.

From 1930 on the General Conferences of ISTUS, except in 1931, had been combined with congresses, where papers dealing with scientific, technical and practical problems of soaring were read. Up to the outbreak of World War II, seven ISTUS Congresses were held: Darmstadt (1930), Wasserkuppe (1932), Berlin (1935), Budapest (1936), Vienna/Salzburg (1937), Berne (1938) and Warsaw/Lwow (1939).

Participants in the ISTUS Congress at Budapest (1936) in front of the monument of honour, when Prof. Georgii placed a wreath.

**The succession of ISTUS**

Since from the beginning the centre of ISTUS had been the DFS (German Research Institute for Soaring) in Darmstadt, whereby the German Government indirectly subsidized ISTUS to a considerable extent (placing at ISTUS' disposal DFS personnel, including its director, Prof. Georgii, scientific and technical equipment, office machines, stationery, etc.), there came into being, after the conclusion of World War II, something of a vacuum. In reality ISTUS had ceased to exist! The question how to go on with the important work that ISTUS had done in furtherance of soaring was one of the main agenda items of the first General Conference of FAI after the war, held in London from September 10 to 13, 1946. One could not expect to find another research institute or government to take over this expensive job. Lord Brabazon of Tara, the President of FAI, thought that such work should be outside the terms of reference of FAI, and that the latter should deal with the sporting aspects only. Baron de la Grange (France), supported by Mr. Whitney Straight (England), however, disagreed and said: «Let us really make ISTUS an FAI activity!» Eventually, it was decided to ask the National Aero Clubs to give their views on the succession of ISTUS, and Lord Brabazon concluded the discussion thus: «I cannot help pointing out that we are embarking on something we never thought of before, that is to say, running an aeronautical society for one branch of aeronautics; it is a new departure, and may be right or wrong. So long as you are aware of what you are doing, it remains with you. It is something quite different from what we have thought of before. Well, the various Clubs will report in three months' time, and we shall see where we are.»

Although there was still some uncertainty on the succession of ISTUS as a whole, unanimity existed with respect to taking over the sporting activities of ISTUS by FAI, namely the regulation, recognition and registration of Silver C and Gold C badges, and holding international soaring competitions. Regarding the latter, it was decided to organize – with the help of a National Aero Club – the **first** FAI International Soaring Contest in 1948. In principle, Great Britain, Switzerland and Sweden were prepared to shoulder the task; a definite decision about place, time and rules for the competition was to be taken in the next General Conference of FAI in Geneva, 1947. The choice fell on Samedan (Switzerland), and the contest lasted from Monday, July 19 up to and including Saturday, July 31, 1948.

During the General Conference of FAI in Geneva, from September 13 to 20, 1947, it was evident that only the Aéro-Club de France had a worked-out plan regarding the succession of ISTUS. As a first step towards a permanent settlement with respect to this succession, the Aéro-Club de France offered to set up in Paris – as a subcommittee of CVSM – a **working group** consisting of the Secretary-General of FAI, Mr. F. Camerman, one of the founding members of ISTUS, Mr. P. Massenet, the designer of the sailplane Air 100, Dr. R. Jarlaud, and Mr. R. Cartier, who would act as the secretary of the group. Each nation, represented in CVSM, could appoint a corresponding member to the working group.

Besides the general task of making a study of the scientific and technical problems related to soaring, of promoting the research in these fields, and of distributing the results of study and research, the working group was first of all to draft a report on the future organization of the permanent successor to ISTUS, and to prepare a scientific/technical congress to be held during the soaring contest of FAI in Samedan.

CVSM as well as the General Conference of FAI agreed to the proposal of the Aéro-Club de France.

Already by January 1948 the working group in Paris (in fact the Aéro-Club de France) completed its study on the operation of an international organization which would be able to take over the function carried out by ISTUS before the war. The result of this study is recorded in a report, entitled «Etude sur le fonctionnement d'un organisme scientifique et technique de vol sans moteur», which was presented to the FAI in that same month, and published by that body in its Bulletin No. 86 (October 1949). That report constituted the basis for the discussions in the general assembly of representatives of National Aero Clubs for the formation of the permanent successor of ISTUS, held during the scientific and technical congress in Samedan, which also was prepared by the working group.

**The foundation and development of OSTIV**

It was Pirat Gehriger who – as Vice-President of CVSM – in Hotel Bernina at Samedan on **July 27, 1948** welcomed the representatives of thirteen National Aero Clubs, all members of FAI, and suggested that Dr. R. Jarlaud be designated as President and Mr. R. Cartier as Secretary of the first scientific and technical soaring congress after the war. His proposal was adopted unanimously. Dr. Jarlaud reminded the representatives of the decision taken by the General Conference of FAI in Geneva (1947) that the successor of ISTUS should be an integral part of the Commission de Vol sans Moteur of FAI. The representatives deemed the idea of the successor of ISTUS being a **sub-committee of CVSM** acceptable for the present, but were nevertheless of the opinion that that organization in the future would really be better **independent**.

About ten years ago: The president of ISTUS, Prof. Georgii, right, and the President of OSTIV, Mr. L. A. de Lange, left.

Whereas the preparatory work of the **German** Research Institute of the Rhön-Rossitten-Gesellschaft had led to the choice of the name ISTUS, in Samedan the **French** working group put its stamp on the name of the successor of ISTUS. The name Organisation Scientifique et Technique Internationale du Vol à Voile (OSTIV) was accepted unanimously. In accordance with the status of OSTIV, the General Conference of FAI had to give its permission for the name, which it did – supported by CVSM – during the Conference in Paris from September 29 to October 2, 1948.

The objects of OSTIV had been described as follows: «to encourage and coordinate internationally scientific and technical research of importance for soaring, and to distribute the results of it; if circumstances so permit, OSTIV itself will perform certain research projects.» To realize the object, «OSTIV will in any case organize at the place and during the time of the FAI international soaring contests, a congress for the reading of scientific and technical papers being of interest for soaring flight. The papers will be published in 'OSTIV Yearbooks', together with other interesting information, and in this manner brought to the notice of the soaring world.»

So on July 27, 1948, with the determination of the name and the objects, the representatives of the National Aero Clubs of Belgium, Czechoslovakia, Denmark, Finland, France, Great

Britain, Holland, Italy, Norway, Poland, Sweden, Switzerland and the USA founded OSTIV. Finally a provisional Board was chosen, consisting of Dr. R. Jarlaud, **President,** Dr. W. Eichenberger and Mr. L.A. de Lange, **Vice-Presidents,** and Mr. R. Cartier, **Secretary** Prof. Georgii was nominated to be **Honorary President** of OSTIV.
After a **second** congress in Paris from May 3 to 7, 1949 – the sole one not connected with an FAI international soaring contest – an important decision was taken during the **third** OSTIV Congress, held in Örebro (Sweden) from July 3 to 8, 1950. The representatives of the National Aero Clubs laid down a fundamentally agreed – upon draft constitution that OSTIV was a specialized independent international organization, in some way or another affiliated with FAI, and that its membership was open to each National Aero Club that was a member of FAI. Dr. R. Jarlaud (not present) having intimated the wish to retire from the presidency of OSTIV, the Board was now composed as follows:
Mr. L.A. de Lange, **President,**
Dr. W. Eichenberger, **Vice-President,**
Dipl.-Ing. B.J. Cijan, Dr. R. Jarlaud and Dr. W. B. Klemperer, **Members;**
a Secretary-Treasurer would be chosen by the President.
Two sections were set up: a **Scientific Section (Chairman** Dr. A. Raspet) and a **Technical Section (Chairman** Mr. W.F. Ledermann).
Discussions between the President of OSTIV and the Director-General of FAI resulted – after deliberations in some FAI General Conferences – in a decision of FAI in 1954 to modify its constitution, so that independent international organizations could join this body as «International Associate Members». OSTIV became the first – and until today the sole – member of this kind. Also, OSTIV incorporated associate membership in its final constitution, adopted by the General Conference in Buxton, 1954. By that, it became possible to introduce **Individual** membership (in 1956) as well as **Scientific/Technical** and **Corporate** membership (in 1959) in the structure of OSTIV. This had never happened with ISTUS.
From May 1953, the Swiss «Aero Revue» has been the official organ of OSTIV, and since August 1956 a special «OSTIV Section» has appeared in this monthly periodical.
Whereas the papers of Samedan (1948) and Paris (1949) have never been published, and the technical papers read at Örebro (1950), Madrid (1952) and Buxton (1954) were published by OSTIV itself (the meteorological papers of those congresses were published by The American Meteorological Society as «Meteorological Monographs»), from September 1956 almost all OSTIV papers have been published, first in the OSTIV Section of «Aero Revue», and subsequently in bound form in OSTIV Publications. The first one made in this way was OSTIV Publication IV comprising the papers read in St.-Yan (1956). Also, «The World's Sailplanes I» (1958) and «The World's Sailplanes II» (1963) were produced on this system. Both volumes are now completely sold out. A third volume – to be published in cooperation with «Jane's Yearbooks» – is in preparation, and will come out in 1974.
By way of separate published chapters, OSTIV is publishing at lower priority a book titled «Introduction to Sailplane Technology». The first chapter, «Sailplane Weight Estimation» is already available, whilst the second chapter on static handling qualities will appear in 1974; the first chapter was written by Mr. Walter Stender, the second one by Prof. Dr.-Ing. Piero Morelli.
For all the associated editorial work OSTIV has a Scientific and Technical Editor, since April 1966 Cedric Vernon. His predecessors were Betsy Woodward (1956), Beverly Shenstone (1959) and Ronald Watson (1965).
Mr. A. Gehriger who – in his capacity as President of CVSM – attended the OSTIV Board Meeting in Zürich on March 25 and 26, 1955, pointed out that the World Gliding Championships were becoming more and more costly because several (mostly state subsidized) National Aero Clubs were entering with «super orchid» sailplanes and so were reducing the chances for the less financially potent nations, and invited OSTIV to study the possibility of creating a cheaper «restricted class» of sailplanes. The Board of OSTIV, accepting the invitation, constituted a group of specialists to deal with this problem.
In July 1956, OSTIV presented CVSM with a set of rules defining a «Standard Class» for sailplanes. The aim of this class was a sailplane cheap to make (cheap materials and simple methods of construction), cheap to operate (easy to repair and to maintain, quick and easy to rig and de-rig, as well as simple to transport on a trailer), but still having good performance and flying qualities.
CVSM adopted the rules («Requirements and Recommendations»), and decided to introduce the Standard Class for the first time at the World Championships in Leszno (1958). The first Standard Class world champion was Adam Witek (Poland). To encourage the new Standard Class design, OSTIV decided to award a Trophy to the designer(s) of a Standard Class sailplane at the World Championships having in its opinion the best combination of cheapness, simplicity and efficiency (performance). The first OSTIV Trophy was awarded to the designer of the Standard Class Sailplane Ka 6BR, Rudolf Kaiser (Germany), who presented this sailplane at Leszno (1958).
The tradition of ISTUS to award an ISTUS-Ring to the person who had made an exceptional achievement in furtherance of the development of soaring flight, has been continued by OSTIV after the decision of the General Conference in St.-Yan (1956), to award at future OSTIV Congresses an OSTIV Plaque to the person who has made «the most noteworthy **scientific** and/or **technical** contribution to soaring flight» in recent years. The difference between «ring» and «plaque» was that the former also could be awarded to extraordinary sporting performances. The first OSTIV Plaque was awarded to Dr. Joachim P. Kuettner at Osieczna (Poland) on June 28, 1958. Since 1968, the OSTIV Plaque has been combined with the «Klemperer Award», derived from the benefits of the «Wolfgang B. Klemperer Memorial Fund». During the evaluation of the Standard Class sailplanes, presented to OSTIV during the World Gliding Championships (1958) in Leszno, it became obvious that it would have faciliated the evaluation, if the sailplanes offered had been built to common airworthiness requirements. This, and other arguments led to the convening of a meeting of airworthiness specialists within OSTIV in Vienna from January 20 to 22, 1959 with the object to make a comparative study of the various existing national airworthiness requirements and – on the basis of the results of this study – to set up minimum OSTIV airworthiness requirements, at first for Standard Class sailplanes.
In his opening speech to the «working group» in Vienna – later named **«OSTIV Sailplane Development Panel»** – the President of OSTIV made it clear that OSTIV never will have the intention to force the national authorities, the FAI or the Aero Clubs in the different countries to accept any OSTIV requirements. However, «these airworthiness requirements must be so clearly and concisely worked out by the specialists of OSTIV that their acceptance by all interested parties and their adoption as national requirements would be sure to follow. After detailed study of the various national loading assumptions, the lowest value, which would still result in a completely safe sailplane, must be chosen.»
The Conference in Vienna was attended by specialists from ten different nations, and was followed by a Conference in Paris from September 21 to 23, 1959. Both Conferences, under the chairmanship of Mr. B. S. Shenstone, resulted in a document dated June 1960 and titled «Proposed Airworthiness Requirements for Standard Class Sailplanes». This document was re-

vised at a meeting in Helsinki on November 4 and 5, 1961, the revised issue, under the same title, appearing in July 1962.
In accordance with a decision of the General Conference of OSTIV in Junin (Argentina) on February 22, 1963, the Sailplane Development Panel, under the chairmanship of Maj.-Gen. Dipl.-Ing. C. W. A. Oyens, set up airworthiness requirements for **all kinds** of sailplanes. The first edition, covering the whole range of sailplanes, was published in July 1964. It was followed by a revised edition, dated December 1966, which was reprinted unchanged in May 1969.
It has been a great success for OSTIV, that the representatives of eleven National Air Boards, assembled in Paris from January 13 to 15, 1969, with the object of setting up airworthiness requirements for sailplanes acceptable to the countries involved, agreed to take as the basic text for the discussions the OSTIV Requirements 1966. Taking into account the remarks made in this, and in a second meeting of these representatives (in Paris from January 26 to 30, 1970), the OSTIV Sailplane Development Panel published in September 1971 a new (revised) edition «OSTIV Airworthiness Requirements for Sailplanes», which has been well received by most of the National Air Boards.
Three successful courses have been held since 1963 in Calcinate del Pesce, near Varese (Italy): one for experienced gliding instructors on the subject of training (1963), one for experienced soaring pilots who tested several well-known Standard Class sailplanes by means of comparison flights (1964) and one for expert soaring pilots on evaluation of sailplanes (1966). All three of these courses were conducted by Dipl.-Ing. H. Zacher.
Finally a special OSTIV Conference on the standardization of weather forcasts for soaring pilots was held in Zell am See (Austria) from April 26 to May 6, 1971, attended by professional meteorologists from twelve countries. The conference, under the guidance of Dr. J. P. Kuettner and Dr. S. Froeschl, resulted in the production of two documents: a manual for soaring forecasting, and a document containing the background material for the manual. The World Meteorological Organization (WMO) in Geneva has taken a great interest in this work of OSTIV, and offered to review the documents and to publish them under the auspices of OSTIV. It is the intention of OSTIV to organize a training course for meteorological forcasters soon after the documents will be ready.
After 25 years, OSTIV is still a fully alive organization, performing its extensive task entirely by the enthusiastic and voluntary cooperation of a number of individuals whose sole interest lies in the furtherance of soaring flight!

**Complementary data**

**OSTIV Congresses:** Samedan (1948), Paris (1949), Örebro (1950), Madrid (1952), Buxton (1954), St.-Yan (1956), Osieczna (1958), Cologne (1960), Junin (1963), South Cerney (1965), Leszno (1968), Alpine (1970) and Vršac (1972).

**OSTIV Publicatons:** Publ. I Örebro, II Madrid, III Buxton, IV St.-Yan, V Osieczna, VI Cologne, VII Junin, VIII and IX South Cerney, X Leszno, XI Alpine and XII Vršac (in preparation).

**OSTIV Plaque:** Dr. J. P. Kuettner (1958), Dipl.-Ing. B. J. Cijan (1960), Prof. Dr.-Ing. R. Eppler (1963), Mr. C. E. Wallington (1965);
**with Klemperer Award:** Dipl.-Ing. H. Zacher (1968), Prof. Dr. Ing. F. X. Wortmann (1970) and Mr. P. F. Bikle (1972).

**OSTIV Diplomas:** Prof. Dr. Ing. F. X. Wortmann (T), and Mrs. M. L. A. de Schwarzkopf and Mr. E. R. Lichtenstein (M) in 1965, Dipl.-Phys. H. J. Merklein (T) and Mr. Ch. V. Lindsay (M) in 1968, Dr. Ing. J. Gedeon (T) and Dr. H. Jaekkisch (M) in 1970, Mr. P. F. Bikle and Dr. G. R. Whitfield (T), and Dr. A. D. Konovalov (M) in 1972. (Awarded for **technical** (T) or **meteorological** (M) papers being of particular value to OSTIV).

**OSTIV Diplomas for Special Services** are given to Mr. Per Weishaupt in 1965 and to Mr. Alex Stirnemann in 1968.

**OSTIV Trophy:** Mr. R. Kaiser for Ka 6BR in 1958, Mr. R. Kunz for Standard-Austria in 1960, Mr. T. Tervo and Mr. J. Jalkanen for Vasama in 1963, Mr. F. N. Slingsby, Mr. J. C. Reussner and Mr. W. Slater for Dart in 1965 and Mr. W. Okarnus for Foka 5 in 1968. (The OSTIV General Conference in 1970 decided to abandon the Standard Class sailplane competition for the OSTIV Trophy.)