

TAKING ON A NEW DIMENSION



2019

ACTIVITY REPORT

skywin.be



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CHAIRMAN'S MESSAGE



How could we broach year 2019 when the entire world is slowly getting out of lockdown? How could we bring up confidence in the ASD industry when aero transportation faces a massive air pocket?

In itself 2019 was a great year for Skywin. Paris Air Show late June was wonderful with a record breaking participation of Walloons companies and Research Centres. More than ever it was the opportunity for sustaining commercial and technological relationships as well as creating new ones back then in a steady state grow path. We also enjoyed the visit of key Belgian statesmen and stateswomen trough whom significant advances have been made in Defence and Space, by signing pioneering contracts in the frame of the fighter replacement on one hand, by paving the way of an expanded Belgian contribution to the ESA programs and its favourably induced business on the other hand.

Thanks to maturation of local companies and emerging European regulation 2019 also showed reinforcement in the Drone business. We trust it will be a growing one.

Together with Mecatech, our fellow cluster focused on mechanical industry, we finalised a list of technologies for which Walloon aero and defence companies own skills or rationale to claim participation in major European research and development funds among which the European Defence Fund.

It will be used in order to strengthen our relationship with decision makers inside regional and federal government as well as at the European level.

Locally 2019 handed over a new Walloon government with a huge ambition of progress. The clusters (pôles de compétitivité) were confirmed in their role although clearly challenged on their impact on economy. Connection with the new government was bolstered and clusters are now part of the ambitious transition plan for Wallonia. In the mean time the entire process for triggering, building and selecting collaborative R&D projects was redesigned and a renewed international jury put in place.

Unfortunately 2019 saw the industry face a major setback with the grounding of the B737. No doubt Boeing will eventually settle the issue. However what's the recovery plan? And today, after the lockdown, what's short and middle term expectation for the aero industry? One thing for sure, it will be greener. Innovation desperately needed! So one way or another, during 2020, let us keep our technological skills and capacity to face the future.

More than ever Skywin remains committed to support this challenge.

Jacques Smal
Chairman



01

SECTORS

*Aeronautic
Space
Defence
Drones
Engineering*



AERO

The Walloon sector dedicated to Civil Aviation is an historical sector stemming from the metallurgical and mechanical skills acquired in the 20th century, which is still growing in Wallonia.

It brings together more than 70% of the Belgian activity and supplies 5% of the Airbus range's equipment, while also being present in Boeing, Bombardier and Embraer.

The Walloon aeronautics industry employs over 6,000 people (direct employment) with a turnover of 1,6 billion euros.

Skywin's activity is focused in the following areas:

- Structures (metal and composite)
- Aircraft engines
- Engine test benches
- Embedded systems
- Aircraft hybridation and electrification
- Maintenance, repair and overhaul (MRO)
- Numerical simulation, computer-assisted test and design
- Airport services
- R&D
- Training

This sector brings together large and globally recognised companies such as:

- **Sonaca**, world leader for fixed and moveable wing leading edges;
- **Safran Aero Boosters**, world leader in low pressure compressors;
- **Sabca**, for structures and maintenance.

It also includes an extremely dynamic network of SMEs integrated into the global supply chain, sometimes under Tier1.





SPACE

Over the last 20 years, the Walloon space sector has more than tripled its turnover (350 million euros) and its number of jobs (1800) spread across the 44 companies, research centres and academies.

It is an important part of the Belgian sector, which ranks fifth place in terms of investments in space research in Europe.

Members' activities cover the 7 main segments of the space sector: the ground segment, launchers and spacecrafts, satellites, Earth observation instruments, space equipment testing, ground satellite applications and space science.

In 2019, Skywin's space players have deployed their strategy for "horizon 2025" based on 3 major axes:

- Support industrial, scientific and innovation research;
- Ensure the transition to Space4.0;
- Support the growth of the « New Space » sector in Wallonia.



DEFENCE

The Walloon sector dedicated to Defence and Security is another historical sector stemming from the metallurgical and mechanical skills acquired in the 20th century.

Overall, the Walloon defense industry is a sector gathering 67% of the Belgian activity and directly employing nearly 4.000 people with a turnover of over 1 billion euros (global data for aero/terrestrial/maritime).

It brings together several large companies (Belgian and International) as well as a dynamic network of SMEs that are constantly developing new skills.

Main areas of activity:

- Structures (metal and composite, armour) for military aviation and ground armour;
- Military aircraft engines (production and MRO);
- Maintenance for military aviation (airplanes and helicopters);
- Light and heavy armament;
- Air carrier (POD) or ground (turret) weapon boarding system;
- Secure communication system for mission aircraft (Awacs, maritime patrol, ...);
- Electronic embedded system following military qualification;
- Military drone system (sensors, secured operating system, remote control, ...).





DRONE

Skywin is an active member of the Belgian Civil Drone Council. The drone sector is growing rapidly in Wallonia. This is based on the following activities:

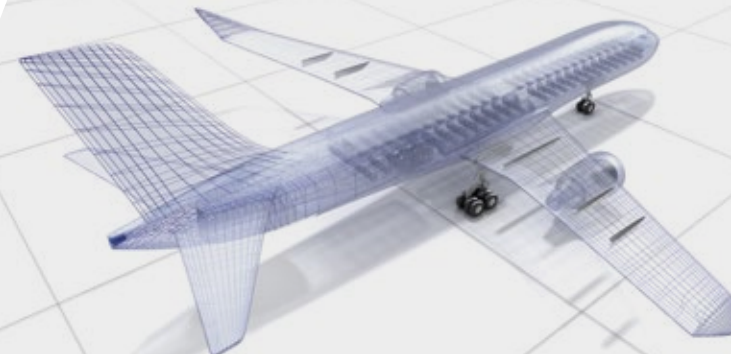
- Development of sensors and embedded applications which may be closely linked to embedded applications used in space;
- Development of all types of services for industry and the public sector;
- Design and test of machines;
- Design of embedded electronics;
- Training of pilots;
- Officially recognized test zones for professional drones development.



ENGINEERING AND SUPPORT ACTIVITIES

Engineering and supports activities includes several types of entities:

- Digital simulation software editors;
- Companies specialised in design and calculation;
- Non destructive testing experts;
- Quality and certification assistance;
- Intellectual and industrial property offices;
- Development and manufacturing of tools;
- Manufacturing companies that value their external skills to meet local needs;
- Research Centres offering engineering services.



02

STRATEGY

6 technological axes

4 action levers

Technological axes

C

Composite Materials
& Industrial Processes

M

Metallic Materials
& Industrial Processes

S

Space / Drones
Applications & Systems

E

Embedded
Systems

N

Modelling &
Numerical Simulation

A

Airport
Services

Action levers



Research & Development:

Encourage collaborative innovation to serve the industrial competitiveness of members. The approach builds on the skills of universities and research centres, and on downstreams industrial manufacturing applications to strengthen and increase market access in the targeted sectors.



Investments:

To help companies (mainly SMEs) in their growth or industrial redeployment by proposing the various investment aid solutions available in Wallonia, possibly in synergy with R&D or training projects.



Training:

To offer innovative training to industrialists and job seekers: new technical skills necessary for the competitiveness of companies and soft skills needed to consolidate or confront new markets.



Internationalisation:

In collaboration with AWEX, to promote the development and recognition of the cluster's companies in a sector naturally oriented internationally. Propose synergies with other international aerospace clusters. To improve the visibility of the sector and organise regional communities at international trade shows.

03

FIGURES

Since 2006, 85 certified industrial projects promoted

End 2019, Skywin represents 7,800 jobs and €2 billion of turnover





The number of members increased from 86 in 2006 to 158 entities at the end of 2019

70% of Belgian aeronautical companies are based in Wallonia. These Walloon companies provide an average of 5% of the components for each Airbus product.

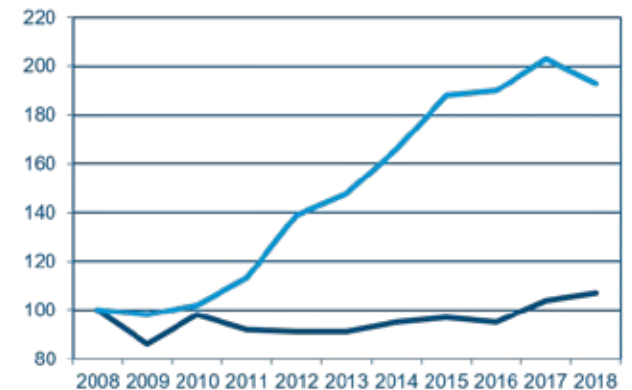
	111	SME
	15	Large companies
	7	Universities and High schools
	12	Research centres
	2	Centres of expertise
	11	Other members

85 labelled projects over 27 Calls (2007-2019)

	
	54 R&D Projects €217 M
	21 Investment Projects €33 M
	10 Training Projects €15 M
	Total budget: €265 M

	
	Private budget (from industry) €107 M
	Public funding (for Research & Education) €72 M
	Public funding (for industry) €86 M
	Total budget: €265 M

Evolution of the Added Value of the member companies and the manufacturing industry - base 100



— Members
— Manufacturing industry Outside Pharma sector

158
ENTITIES 

 JOBS
7800

90% 
EXPORTS

04

SERVICES

Developing technological excellence
Improving competitiveness
Increasing impact
Creating employment opportunities



Innovation projects:

- Skywin advises and accompanies companies in the development of collaborative projects (R&D, training and investment) up to their labelling and financing.
- The projects bring together the skills of industrialists, universities and research centres.
- The ultimate goal is to create economic activity and sustainable employment.



Networking:

- The members of the cluster have access to a wide network of Walloon and international industrial, scientific and training partners.
- The cluster regularly organises thematic events to promote exchanges and partnerships (conferences, seminars, technology roundtables).
- The cluster frequently takes part in its partners' events.
- The cluster leads 3 thematic working groups (Civil aeronautics, Defense and Space) aiming to anticipate mid-term technical and business evolutions.



Competitiveness:

Various means are made available to members, for example:

- Availability of market studies from the Frost & Sullivan catalogue.
- Active participation in the "Made Different" program, which aims to promote the deployment of the Industry of the Future (4.0) in Wallonia.
- Partner of Space2IDGo project which aims to export European space innovation to third countries via the use of satellite data for earth observation, geopositioning and telecommunications



International:

- The cluster offers international visibility to its members and their projects through the organisation or participation in various events or exhibitions (in collaboration with AWEX).
- Skywin collaborates with NCP Wallonia to promote the involvement of companies in European projects.
- The cluster has a network of international partners (France, Canada, Germany, etc.), and is an active participant in the European Aerospace Cluster (EACP).



Training:

- With its partners, Skywin participates in the circulation and acquisition of the skills necessary for the technological development of companies.
- Skywin supports innovative training projects in order to support a specific advanced field or to ensure the development of skills related to a R&D project.



05

PROJECTS

For 2019:

- *13 accompanied project ideas*
- *5 project deposits*
- *6 certified projects*

SW_4EQUIP

Engine Embedded Electronic Equipment

Electrification of oil equipment for aircraft engines to reduce gas emissions.

Project leader: SAFRAN AERO BOOSTERS

Partners: Bit&Byte, GDTech, Nsilition, Open Engineering, Taipro, V2i, VDDTech (SME's), ULB, UCLouvain (Universities).



SW_AMPASENS

Drone for the positioning of a measurement system on a High-Voltage line

Development of an autonomous sensor installation system on live HV power lines through the use of drones to reduce human risk and exploitation costs.

Project co-labelled with MecaTech.

Project leader: ALX Systems

Partners: Ampacimon (SME), Multitel, Sirris (Research Centers)



SW_LDCOMP

Digital laboratory for composites

Development of a full range of automated non-destructive testing tools for complex composite structures. International partnership (Wallonia - Canada).

Project leader: Optrion

Walloon Partners: Alkar, Citius Engineering, NDT Pro (SME's), Safran Aéro Boosters, (Large Company), ULiège (University)

Canadian Partners: Visioimage (SME), Bombardier (Large Company), On Duty! (University), CTA (Research Center).



SW_IADAS

Artificial intelligence for autonomous drones and satellites

Development of methods to adapt artificial intelligence algorithms and high-performance platforms to the needs of "New Space" satellites and drones.

Project leader: Deltatec

Walloon Partners: ALX Systems (SME), Multitel (Research Center), ULiège (University).



06



MEMBERS

158 members

21 new members in 2019

New members in 2019

Membership of the Skywin Cluster is open to private or public legal entities with a registered office or operation headquarter in Wallonia and who are active in the research, development and/or application of technological products and processes in the aeronautic or spatial sector.

Members of the professional associations EWA (Walloon Aeronautics companies) and Wallonia Espace are de facto members of the Skywin cluster. Any other company or association may become an adherent member of the Skywin cluster, upon written request to the board of directors and following the agreement of the latter based on the following criteria:

- Active in the research, development and/or application of technological products and processes within one of the 5 sectors covered by Skywin.
- Have a link with at least one of the strategic focuses defined by the cluster.
- Pay an annual fee.

A company may also become a temporary member if it is part of a consortium for a certified project.

Since 2007, the total number of members has increased from 86 to 158 including a remarkable rise in the number of SME's.

In 2019, 18 SME's, 1 large company, 1 research center and 1 drone association joined the cluster.



www.alkartechnology.com



www.ampacimon.com



www.bemapsolutions.com



Bit and Byte

www.bitandbyte.io



www.centexbel.be



www.decube.be



www.d-ms.be



www.esix.be



www.esnah.com



www.id2move.eu



www.ionics-group.com



www.linkedin.com/in/jacobs-frédérique-09b2776/



www.micromega-dynamics.com



www.nsilition.com



www.oplusr.be



www.piron.be



www.rcto.be



www.sensy.com



www.taipro.be



www.vddtech.com

07

INTERNATIONAL

To accompany members in their international development

To increase the visibility of the Walloon aerospace sector

Skywin develops and implements its internationalization strategy in close collaboration with AWEX and regularly consults its members.

Globally, it is based on the following actions:

- Participation in the three essential events of the aerospace sector (Bourget, Farnborough, Singapore).
- Actions in more difficult to access or newer markets (e.g. participation and prospection to trade fairs in Singapore, Russia, Brazil or China).
- Targeted actions in geographically close markets (France, Germany, Luxembourg, Poland), or more traditional ones (Quebec, USA).
- Participation to economic missions abroad, in collaboration with AWEX.
- Welcoming foreign delegations in Wallonia.
- Active participation in European networks, in particular the EACP network – European Aerospace Cluster Partnership and the NEREUS network - Network of European Regions Using Space technologies.
- Participation in one COSME project (Space2ID GO): Collaboration between European clusters to support the internationalization of SMEs.

Participation in major events in 2019:

- JEC 2019 - Paris
- Paris Space Week
- Aeromart - Montréal
- International Paris Air Show - Le Bourget
- MAKS - Moscow
- IAC Washington
- Space Tech Expo - Bremen
- Aerospace & Defence Meetings - Torino
- RDV Forum CRIAQ - Montréal
- SAFE Drone seminar - Avignon
- R&T Day Safran Group - Paris
- Belgian Royal Economic Mission - Luxembourg
- Several B2B meetings (EACP, Rencontres industrielles Hauts de France, etc.)



59^e INTERNATIONAL PARIS AIR SHOW LE BOURGET | 59^e SALON INTERNATIONAL DE L'AÉRONAUTIQUE ET DE L'ESPACE PARIS - LE BOURGET
JUNE 17-23, 2019 | 17-23 JUNE 2019



08



**COMMUNICATION
& EVENTS**

Main local events organised in 2019:

Thermoplastics for aeronautics:

Skywin has selected an international panel of experts from major actors (AIRBUS, SAFRAN Group, SOLVAY, Hexcel Composite, CETIM, INSA, Materia Nova, INSA Rouen - France) to provide an extended overview of the potentiality of thermoplastics for aeronautic industry.

Seminar AI4Copernicus:

With no less than 28 Walloon and International speakers, AI4Copernicus has enabled more than 200 people (Belgian but also from 10 European countries) to take stock of knowledge in the field of the interpretation of satellite images using artificial intelligence potentialities.

Meeting with IMEC:

Skywin visited IMEC Headquarter in Leuven with more than 30 members. This world-renowned Research and Development Center in the field of Nanotechnologies and Digital Technologies could be an interesting partner within the framework of R&D collaborative projects.

Earth Observation working group:

The Skywin-driven working group met 10 times since 2015. A position paper promoting the conclusions of the works published end 2018 has been widely diffused in 2019.

Working groups "Civil aeronautics" and "Defense":

The objectives of these 3 WG is to identify the strategic priorities in the aeronautics and space sectors and to strengthen the Defense industrial sector in Wallonia. The Defense WG is managed in collaboration with MecaTech.

Cercle Skywin:

Forum dedicated to Skywin's corporate members aiming to meet in an informal setting, to share experiences, to discover opportunities for collaboration and to express expectations about Skywin action.

Beyond its own organisations, Skywin regularly participates in events proposed by its Walloon partners (Digital Wallonia, InnovaTech, other clusters, etc.).



2019 figures

55 publications press and audiovisual appearances

113 news published by electronic means, via 22 newsletters

1.048 newsletter subscribers

27.000 website visits

463 people present at seminars organised by the cluster



09



PARTNERS

Main Walloon partners



Main international partners



EUROPEAN NETWORK OF DEFENCE-RELATED REGIONS



10

GOVERNANCE & OPERATIONAL TEAM

Operational unit (2020)



Etienne POURBAIX
Director
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Executive Board (2020-01-01)

SMAL Jacques	<i>Chairman</i>	Safran Aéro Boosters	Industrial
PONTHOT Jean-Philippe	<i>Vice President</i>	ULiège	University
BURY Patrick	<i>Board member</i>	TAS Belgium	Industrial
JONGEN Thibault	<i>Board member</i>	Sabca	Industrial
LANGER Hugues	<i>Board member</i>	Sonaca	Industrial
RENAULD Philippe	<i>Board member</i>	Thales Belgium	Industrial
TILMANT Michel	<i>Board member</i>	GDTech	Industrial
du PRE WERSON Thierry	<i>Board member</i>	Spacebel	Industrial (SME)
DEFISE Jean-Marc	<i>Board member</i>	AMOS	Industrial (SME)
BERTIN André	<i>Board member</i>	Coexpair	Industrial (SME)
JACOBS Geoffroy	<i>Board member</i>	EWA	Association
GRUSLIN Michel	<i>Board member</i>	Wallonie Espace	Association
VERLINDEN Olivier	<i>Board member</i>	UMons	University
LIBERT Anne-Sophie	<i>Board member</i>	UNamur	University
WINCKELMANS Grégoire	<i>Board member</i>	UCLouvain	University
HENDRICK Patrick	<i>Board member</i>	ULB	University
MILECAN Michel	<i>Board member</i>	Cenaero	Research Center
WESTHOF Jean-Jacques	<i>General secretary</i>	Skywin	Cluster
JEUKENS Véronique	<i>Observer</i>	Gouvernement Représentative	Walloon Region
VAN CALSTER Benoît	<i>Observer</i>	SPW - EER	Walloon Region
Tbd.	<i>Observer</i>	AWEX	Walloon Region
CECCONELLO Anna	<i>Observer</i>	WAN	Training center

Steering committee (2020-01-01)

SMAL Jacques	<i>Chairman</i>	Skywin	Cluster
PONTHOT Jean-Philippe	<i>Vice-président</i>	Walloon Universities	University
LANGER Hugues	<i>Member</i>	Sonaca	GE
DUBOIS Marc	<i>Member</i>	Sabca	GE
DUPREZ Vincent	<i>Member</i>	Safran Aéro Boosters	GE
du PRE WERSON Thierry	<i>Member</i>	Spacebel	SME
MILECAN Michel	<i>Member</i>	Cenaero	Research Center
WESTHOF Jean-Jacques	<i>Member</i>	Skywin	Cluster
POURBAIX Etienne	<i>Member</i>	Skywin	Cluster
BIEVELEZ Anthony	<i>Participant</i>	Skywin	Cluster
FONDU Pierre-Jean	<i>Participant</i>	Skywin	Cluster
STASSART Michel	<i>Participant</i>	Skywin	Cluster
PRAET David	<i>Participant</i>	Skywin	Cluster



Skywin warmly thanks Claudine BON for her important contribution to the development of the cluster and who retired end 2019.



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