

TAKING ON A NEW DIMENSION



2024

Activity Report



AERO



SPACE



DRONE



DEFENCE

skywin.be



TABLE OF CONTENTS

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Graphic design
Visible.be (26519)

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Chairman's message	4
Skywin in a nutshell	5
Sectors	6
Technology (DAS)	10
Missions	12
Figures	14
Projects	16
Members	18
International	20
Communication & Events	22
Partners	24
Operational Team	26
Governance	27

CHAIRMAN'S MESSAGE

DEAR MEMBERS OF SKYWIN,

As we step into 2025, I am honored to address you as the President of Skywin,

This year, our industry faces significant challenges, notably due to the current tariff crisis that continues to hinder global trade. The aerospace sector, which we represent, is particularly affected by these developments, emphasizing the need for resilience and innovation.

In addition, the ongoing war in Ukraine and the shifting dynamics of American support have compelled nations to reassess their defense budgets. This situation presents a unique opportunity for our sector to step up, not only to bolster national security but also to ensure that we contribute to the protection of our communities. The increasing importance of access to space and airspace underpins our strategic relevance.

Amidst this unstable environment, it is crucial that we do not lose sight of our commitment to decarbonization. Our sector plays a pivotal role in driving sustainable practices

and reducing emissions, and we must maintain our efforts to lead the way in this essential transformation.

These trials call for enhanced solidarity, coordination, and support within our industry. It is essential that we unite our efforts to navigate these turbulent times successfully. Our collective expertise and commitment to excellence will pave the way for transformative solutions that uphold our values and safeguard our future.

Let us embrace this year with determination and a collaborative spirit, as we strive to overcome obstacles and seize opportunities for the betterment of our industry and society at large.

Sincerely,

François Lepot
Chairman



SKYWIN IN A NUTSHELL

For the sectors of the Skywin cluster, and in particular aeronautics, 2024 will have been a year of confirmation of the post-Covid recovery, with high growth rates compared to previous years sometimes leading to some operational difficulties, both in terms of available personnel and production resources.

For the Skywin division, the year 2024 have been mainly marked by:

- The renewal of the Board of Directors of the Skywin cluster and the confirmation for a new 3-year mandate as President of François Lepot (CEO of Safran Aero Boosters);
- The continuity of the strategy around:
 - 4 economic sectors
 - 5 technological areas (DAS for "Domaines d'Actions Stratégiques")
 - 5 missions defined in the Objectives and Means contract with the Walloon government
- The presentation during various federal and international meetings of the 4 strategic and technological roadmaps produced by Skywin (Aero, Space, Drone and Defence), allowing to present strong Walloon ambitions for the sectors involved, in particular for low-carbon aviation and the defence sector;
- The support for Wallonia's Smart Specialization Strategy (S3);
- The labeling of 3 new collaborative innovation projects as well as the continued support of the cluster with the Walloon administration in monitoring the WINGS project dedicated to future low-carbon aviation;
- The participation with AWEX to several international major events such as the Singapore Airshow, Space Tech Expo Breme, Aeromart Toulouse or specific missions such as the Defense and Dual Use mission in Spain.



MISSIONS

- Support for the regional strategy
- Innovation
- Economic growth
- Talent development
- Internationalisation



TECHNOLOGICAL AREAS - DAS

- Structures, propulsion and flying subsystems
- Innovative materials and processes
- On-board and communicating systems
- Data economics, artificial intelligence
- Simulation, modelling and test facilities



SECTORS

- Aeronautics
- Space
- Drones
- Defence

01

SECTORS

*Space
Defence
Drones
Aeronautics & WINGS*



Space

For more than 50 years, the Walloon space sector has been an important part of the Belgian sector, which ranks 5th in Europe in terms of investment both in research and in the space industry. (350 MEuros/y). The Walloon space sector includes 50 players who generates a turnover in 2024 of 500 MEuros and provides more than 2000 direct jobs. The activities of these actors cover the 7 main segments of the space sector: Preparation for space, Space Transportation, Ground segment, Satellites in EO and Satcom, Cybersecurity and Exploration. Skywin's "2025 space strategy" has focused on 2 industrial and research segments in which it can operate on an international scale: Earth Observation (upstream and downstream) and launchers (focusing on reuse). Regional support has been provided in 2023 to complement important industrial investments in these two sectors. At the same time, Research Center and Universities have joined forces to create the JRI4Space in order to jointly develop these fields by pooling equipment and supporting 30 theses. The results of these industrial and scientific efforts are expected by 2025 to place our region among the most active European Regions in the field of New Space.

Another objective concerned the transversal integration of cybersecurity in the space sector that led to the creation of a permanent WG between these 2 worlds. Belgium is the biggest contributor in cybersecurity budget of ESA. Finally, in the wake of international tensions, we initiate in 2024 a new roadmap addressing "Space4Defense".



Defence

The current geopolitical context demonstrates the importance of strengthening the European Union's defense policy. Belgium, like its European partners, therefore, plans to accelerate its military spending to ensure Europe's defense and security.

The Walloon sector devoted to Defence and Security is a historical sector resulting from the metallurgical and mechanical skills acquired in the 20th century.

This sector constitutes a strong industrial activity in Wallonia, with several large companies (Belgian and international) developing, producing and marketing their own products (complete control of the value chain) and a significant local supply chain based on SMEs that are constantly developing new skills.

The Defence and Security activity in Wallonia focuses on the following areas:

- Unmanned Intelligent Autonomous Systems (UIAS);
- Processing/Data management, Communication & Embedded intelligent systems;
- Ammunition Systems/Effectors and integration;
- Structures, materials (including energetic) and protection elements;
- Life cycle support & services;
- Advanced Air Vehicles, Control Systems and Propulsion;
- Space-based capabilities for defence.





Drones

The skies are clearing up in Wallonia. The UAV value chain in Wallonia covers:

- embedded electronics;
- optics;
- image generation and analysis;
- simulation;
- flight control;
- structure (material and shape), ...

with applications including Earth-observation, energy, security, entertainment and C-UAV industries.

After several years of understaffing, the Belgian administration has geared up and started to address the major backlog regarding operational requests. The operators are looking forward to a response time converging to par-level with respect to the neighboring countries, including enhanced digitalization of the process.

Europe and Belgium have announced increases in Defence budgets, including a focus on UAVs and C-UAV systems, addressed as well in the EDF (European Defense Fund) and Belgium's own DEFRA (Defence-related Research Action) calls.



Aeronautics

Walloon sector dedicated to Civil Aviation is a historical sector resulting from the metallurgical and mechanical skills acquired in the 20th century and is still growing in Wallonia. It brings together more than 70% of the Belgian activity and supplies alone more than 5% of the equipment in the Airbus range, while also being present in most major aircraft manufacturers such as Boeing or Embraer for example.

The Walloon aeronautical industry employs more than 10,000 people (direct employment), with a turnover of over 1,5 billion euros. The activity is concentrated around the following areas:

- Structures (metal and composite);
- Aircraft engines and propulsion systems;
- Engine test benches;
- Embedded systems;
- Maintenance and repair (MRO);
- Assisted simulation and design;
- Airport services;

This sector brings together large companies recognized worldwide such as:

- Safran Aero Boosters, world leader in low pressure compressors;
- Sonaca, world leader for wing leading edges;
- Sabca (Orizio Group) for structures and maintenance.



It also includes an extremely dynamic network of SMEs that integrate into the global supply chain, sometimes as Tier 1.

The sector's progress is supported by an unprecedented research and development effort based on the roadmap for the Walloon aeronautics sector established by the cluster at the request of the Walloon government in 2023 and regularly updated, in line with the complete decarbonization of the sector by 2050. As another consequence of this dynamic, the cluster has extended its collaborations with the Walloon regional airports, which are expected to play a very important role in the sector's energy transition.



WINGS

Walloon Innovations for Green Skies

Project Leader: Safran Aero Boosters

WINGS (Walloon Innovations for Green Skies), the technological innovation partnership for the health crisis in the aeronautic sector, brings together up to 21 partners with an R&D project budget of €147 million for 56 months planned duration, funded and financed by Wallonia. 21 partners have joined their R&D forces around the ecological and digital transition of the aeronautical sector to actively contribute to the European Green Deal.

R&D themes are:

- Aerostructure
- Propulsion
- Communication systems
- Materials & processes
- Digitalization & digital simulation
- Industry 4.0

The Walloon aerospace cluster Skywin supports the Walloon administration in its steering activity.

To go further: wingspartnership.be

02

TECHNOLOGY (DAS)

- *Structures, propulsion and flying subsystems*
- *Innovative materials and processes*
- *Embedded and communicating systems*
- *Data economics and artificial intelligence*
- *Simulation, modelling and test facilities*



Structures, propulsion and flying subsystems

This theme covers all structural elements and their integration into aircraft, drones, propulsion systems, launchers and satellites, at all stages of their life cycle. It encompasses the adaptation of existing systems and subsystems to take account of the issue of environmental transition.

In the longer term, this theme goes beyond such adaptation by gradually integrating the energies of tomorrow (H2, synthetic fuels, hybridisation, electrification, etc.)



Innovative materials and processes

This covers various aspects of flying systems and subsystems (aircraft, drones, launchers, satellites):

- materials (intelligent materials, composites, metals), manufacturing and associated special processes (additive manufacturing, advanced composite processes, process equipment,...);
- mechanical components and their assembly;
- surface treatments and coatings.

The theme also covers the sectorial specific qualification/certification aspects as well as the environmental transition, integrating the principles of the circular economy.



Embedded and communicating systems

The third theme covers systems embedded in flying systems and subsystems (transducers, sensors, communication systems, energy management, human/machine interfaces) to meet the main challenges of the following four pillars:

- autonomy supported by on-board artificial intelligence;
- electrification, with the challenge of increasing power and voltage;
- continuous connectivity is a major issue on land, at sea, in the air and in space;
- cyber security to provide safe and secure platforms.



Data economics and artificial intelligence

This theme covers methods and tools for data processing and mining.

Firstly, it covers the data economy and the specific integration of artificial intelligence.

Second, it includes services related to data from earth observation (space, drones, etc.) and from test and maintenance benches. Finally, it supports the development of the industry of the future (Industry 4.0). As a matter of fact, this theme is a provider of solutions to the other themes, such as design, simulation, production, operation, maintenance.



Simulation, modeling and test facilities

This last theme brings together:

- the development of agile and secure design algorithms and software;
- the development and operation of numerical simulation methods and numerical twinning techniques;
- facilities for ground tests and physical simulations (NDT, engine testbeds, autonomous systems, aerodynamics, vibration, radiation, extreme conditions, etc.).

03

MISSION

*Regional strategy support
Innovation projects
Networking and Economic dynamics
Talent Development
International*



Regional strategy support

- Skywin maintains and disseminates at national and international levels strategic and technological roadmaps for 3 sectors : Civil aeronautics, Defence and Drone.
- Skywin leads 4 thematic working groups (Civil aeronautics, Drone, Defence and Space) aiming to anticipate mid-term technical and business evolutions.
- Skywin supports and pilots with the administration the Walloon structuring project WINGS dedicated to future carbon-free aviation.
- The cluster collaborates in co-working or incubation initiatives such as A6K or ID2Move.



Innovation projects

- Skywin provides a technology watch to enable its members to anticipate future technological challenges.
- Skywin advises and supports companies in the development of collaborative projects (R&D, training and investment) up to their labelling, financing and valorization.
- The projects bring together the skills of industrialists, universities and research centers.
- The ultimate goal is to create economic activity and sustainable employment.



Networking and Economic dynamics

- The members of the cluster have access to a wide network of Walloon and international industrial, scientific and training partners.
- Skywin participates in the scale-up program for Walloon SMEs in partnership with WE (Wallonie Entrepreneurs).
- Skywin regularly organizes thematic events to promote exchanges and partnerships (conferences, seminars, technology roundtables).
- Skywin advises and accompanies companies in the development of investment projects.



Talent development

- With its partners, Skywin participates in the circulation and acquisition of the skills necessary for the technological development of companies.
- Skywin wants to support innovative training projects in order to support a specific advanced field or to ensure the development of skills related to a R&D project but this action was limited due to budget issues at regional level.



International

- The cluster offers international visibility to the 4 sectors (Civil aeronautics, Space, Drone and Defence) and their collaborative projects through the organization or participation in various events or exhibitions (in close collaboration with AWEX).
- Skywin collaborates with NCP Wallonia to promote European projects.
- The cluster has a network of international partners (France, Canada, Germany, etc.), and is an active participant in European Clusters of Clusters (EACP, ENDR or NEREUS).

04

FIGURES

Since 2006, 103 labelled industrial projects promoted
End 2024, Skywin represents 10,000 jobs and €2 billion of turnover

The number of members increased from 86 in 2006 to 144 entities at the end of 2024

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



101 SMEs



14 Large Enterprises



9 Universities and Colleges



15 Research centres

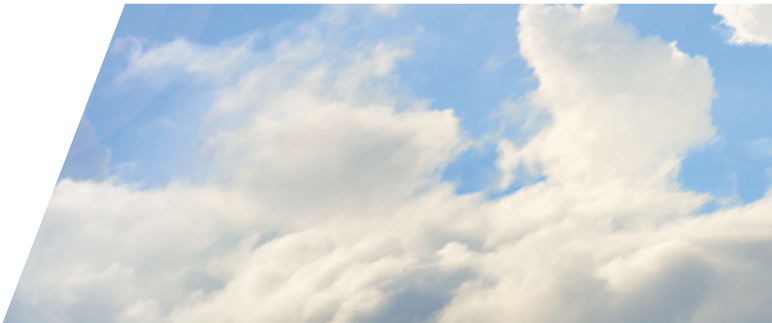


2 Competence centers



3 Other members

103 labelled projects over 43 Calls (2007-2024)



144
MEMBERS



JOBS
10000

90%
EXPORTS

05

PROJECTS

For 2024:

- 8 accompanied project ideas
- 3 submitted projects
- 3 projects labelled in 2024
- 4 projects started in 2024:
SW_CRISTAL ,
SW_DISTORT,
SW_HiPe DaHu,
& SW_LHP4EBox

SW_CRISTAL

Study of a dawn protected against ice formation and development of associated processes and materials

The SW_CRISTAL project is part of the RISE technology development program launched in 2021 by Safran and GE, and research into new architectures for short- and medium-haul aircraft and engines that will enter service around 2035, with the aim of reducing CO₂ emissions by 30%.

Project Leader: SAFRAN AERO BOOSTERS

Partners: GDTech, MPP, CRM Group, Materia Nova, UCLouvain



SW_HIPE DAHU

High Performance Data Handling Unit

The increase in the size of mass storage and the associated data processing for the next generation of satellites implies the need for storage organized in files and for taking into account cybersecurity aspects. The main objective of the project is to study and implement a whole series of technological, hardware and software building blocks, which are essential for the next generations of data storage and management units.

Project Leader: DELTATEC

Partners: Spacebel, CSL, CETIC, OHB (Germany)



SW_LHP4EBOX

Two-phase loop for 3D printing electronics case cooling

In the aerospace field, electronic enclosures feature electronic boards or components that are increasingly dissipative of heat. The problem of heat removal from electronic components in enclosures is becoming a major issue in their design. The LHP4EBox project aims to implement a cooling solution in electronic enclosures.

Project Leader: EHP

Partners: Calyos, Anyshape, UCL, Cenaero, VKI



SW_DISTORT

Advanced study of the distortion of new-generation compressors

The SW_DISTORT project is part of the European Strategic Research Agenda (SRIA), and the RISE technological development program launched in 2021 by Safran and GE, which will develop a non-hubbed Open Fan engine that will reduce fuel consumption by 20% on the short- and medium-haul engines due to enter service around 2035 and contribute to a 30% reduction in CO₂ emissions.

Project Leader: SAFRAN AERO BOOSTERS

Partners: BeCover, GDTech, V2i, Cenaero, VKI, ULiège



06

MEMBERS



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, spatial, drone, defence sectors.

Members of the professional associations EWA (Walloon Aeronautics companies) and Wallonie 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 4 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 144 including a remarkable rise in the number of SME's.

In 2024, 9 SME and 1 large company joined the cluster.

New members in 2024



safran-group.com/fr/societes/safran-blades



clover.group



apo-gee.tech



boydcorp.com



aerosint.com



3bands.be

**GENERAL
COMPOSITES
DIFFUSION**

www.lazzerini.be



nemand.be



matgenix.com



dgtech.be

07



INTERNATIONAL



JEC WORLD 2024
The Leading International Composite Show
March 5-7, 2024



Skywin develops and implements its internationalization strategy to increase the visibility of the Walloon sectors (Aero, Space, Drone and Defence) in close collaboration with AWEX and regularly consults its members.

Globally, it is based on the following actions:

- Participation in the essential events of the aeronautics, space, drone or defence sectors.
- Actions in more difficult to access or newer markets (e.g. participation and prospection to trade fairs in Brazil and Singapore).
- Targeted actions in geographically close markets (France, Germany, Luxembourg, Spain), or more traditional ones (Quebec, USA).
- Participation to economic missions abroad, in with AWEX.
- Welcoming foreign delegations in Wallonia.
- Active participation in European networks, in particular the EACP network (European Aerospace Cluster Partnership), the NEREUS network (Network of European Regions Using Space technologies) and the ENDR network (European Network for Defence-related Regions).

Participation in international projects:

Clean Aviation (Horizon Europe) project "ECARE" European Clean Aviation Regional Ecosystem

Participation in major events in 2024:

- Singapore Airshow
- JEC Paris
- Paris Space Week
- Casa Vallonia (Turin)
- State visit of the Luxembourg sovereigns
- Innovation Forum Aerospace Valley (Toulouse)
- Mission AEROWALCQ (Wallonie – Québec)
- IA4Copernicus (Luxembourg)
- Skywin and MecaTech Dual-Use Mission in Spain
- Eurosatory (Paris)
- Farnborough
- ESA Industry Space Days
- Skywin - List Luxembourg Meeting Day
- IAC Milan
- Space Tech Expo (Breme)
- EACP General Assembly (Aix-en-Provence)
- Belgian Economic Mission to Brazil
- Aeromart Toulouse
- Meeting day with a Kenyan delegation

Skywin Accelerates Global Ties in Brazil's Aerospace Sector

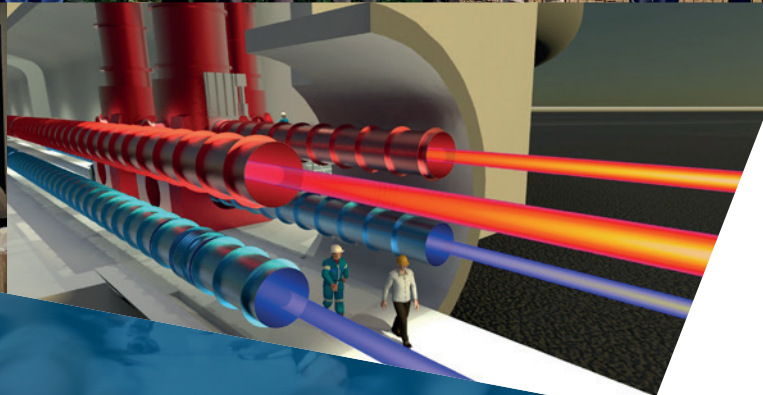
As part of the 2024 economic mission to Brazil, Skywin led a delegation of Walloon aerospace players to forge strategic links with industry leaders like Embraer and Helibras.

By presenting the forward-looking WINGS project and promoting Walloon expertise, Skywin strengthened international cooperation and opened new doors for business opportunities and innovation.

Other activities related to international and communication to promote the technological and industrial skills of the Walloon aerospace sector have also been set up via a digital marketing. A series of webinars have therefore been organised:

- Webinar CRIAQ – Quebec
- Webinar Aerospace Valley – France

08



COMMUNICATION & EVENTS

Main local events organized in 2024:

Earth Observation & National Parks

On June 6 in Vierves-sur-Viroin, the GT EO event, co-led by Skywin and ISSeP, focused on how Earth observation supports environmental conservation. It featured the two Walloon national parks, highlighting EO's role in park management.

Cryogenics & the Einstein Telescope

Skywin organized a seminar at CSL (ULiège) with MecaTech, gathering 25 experts to discuss cryogenic environments for the Einstein Telescope. It led to new project ideas, including ECRYR. A second seminar on Sept 2 in Louvain-la-Neuve addressed optics, coatings, and laser tech.

Composites for Future Mobility

On Sept 19 at Namur Aerodrome, Skywin, Agoria, and Plastiwin hosted a seminar with 40+ attendees on thermoset vs thermoplastic composites, exploring trends and applications in transport innovation.

Sustainable Aviation: FLAG & Skywin

On June 26, 50 members of Skywin and FLAG met to discuss aviation's green transition—focusing on decarbonization, electrification, and future R&D partnerships.

Belgian Defence R&D Initiatives

Skywin took part in DEFRA info sessions and BEMILSPACE meetings to inform and involve Walloon players in defence and dual-use innovation, contributing to a shared tech roadmap.

Drones & Smart Logistics

In 2024, Skywin strengthened ties with ID-2Move through regular exchanges and three events: an Oct 1 session on drones in agri-food chains, and two GT Drone workshops (Aug 27 & Dec 10) to boost Walloon UAV collaboration.



2024 figures

96 articles and news published on Skywin.be and via 10 newsletters and 42 mailings

1.050 newsletter subscribers

46 events relayed

3.275 LinkedIn followers

Over 500 participants at seminars organised by the cluster

09



PARTNERS

Main Walloon partners



Main international partners



EUROPEAN NETWORK OF
DEFENCE-RELATED REGIONS



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GOVERNANCE

Executive Board (2024-12-31)

F. LEPOT	<i>Chairman</i>	Safran Aero Boosters	Industrial
J-PH. PONTHOT	<i>Vice President</i>	ULiège	University
B. DIVRY	<i>Administrator</i>	TAS Belgium	Industrial
A. D'OULTREMONT	<i>Administrator</i>	Sabca	Industrial
N. VANHILLE	<i>Administrator</i>	SONACA	Industrial
G. COIRBAY	<i>Administrator</i>	Thales Belgium	Industrial
G. JANSSENS	<i>Administrator</i>	GD Tech	Industrial (SME)
T. DU PRÉ-WERSON	<i>Administrator</i>	Spacebel	Industrial (SME)
A. DARTEVELLE	<i>Administrator</i>	AMOS	Industrial (SME)
A. BERTIN	<i>Administrator</i>	Coexpair	Industrial (SME)
D. SIMON	<i>Administrator</i>	EWA	Association
L. BARREMAECKER	<i>Administrator</i>	Wallonie Espace	Association
C. CAUCHETEUR	<i>Administrator</i>	UMons	University
A-S. LIBERT	<i>Administrator</i>	UNamur	University
G. WINCKELMANS	<i>Administrator</i>	UCLouvain	University
P. HENDRICK	<i>Administrator</i>	ULB	University
P. GEUZAINÉ	<i>Administrator</i>	Wal-Tech/Cenaero	Research Center
E. POURBAIX	<i>Acting General secretary</i>	Skywin	Cluster
N. THISQUEN	<i>Observer</i>	Gouvernement Representative	Walloon Region
I. HAUBERT	<i>Observer</i>	SPW-EER	Walloon Region
R. JAIMES CONTRERAS	<i>Observer</i>	AWEX	Walloon Region
A. CECCONELLO	<i>Observer</i>	WAN	Training center

Steering committee (2024-12-31)

F. LEPOT	<i>Chairman</i>	Skywin	Cluster
J-PH. PONTHOT	<i>Vice President</i>	Walloon Universities	University
N. VANHILLE	<i>Member</i>	SONACA	Industrial
M. DUBOIS	<i>Member</i>	SABCA	Industrial
O. DEVRIENDT	<i>Member</i>	Safran Aero Boosters	Industrial
T. DU PRÉ-WERSON	<i>Member</i>	Spacebel	Industrial (SME)
P. GEUZAINÉ	<i>Member</i>	Wal-Tech/Cenaero	Research Center
E. POURBAIX	<i>Member</i>	Skywin (Acting General secretary)	Cluster
T. CHANTRAINE	<i>Participant</i>	Skywin	Cluster
A. BIÉVELEZ	<i>Participant</i>	Skywin	Cluster
JP. CHISOONE	<i>Participant</i>	Skywin	Cluster
S. GUALANDRIS	<i>Participant</i>	Skywin	Cluster
A. GRANDJEAN	<i>Participant</i>	Skywin	Cluster

Skywin is the Walloon Aerospace cluster (Belgium) consisting of an association of companies, research organisations and training centres engaged in public-private partnerships and in the implementation of innovative collaborative projects.

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