



FINAL ACCOUNTS

&

BUDGETARY IMPLEMENTATION REPORT

OF

THE CLEAN AVIATION

JOINT UNDERTAKING

FOR THE YEAR

2021

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1 INTRODUCTION

The Clean Aviation Joint Undertaking (CAJU), an independent legal entity, was set up as a public-private partnership by Council Regulation (EU) 2021/2085 of 19 November 2021¹. The Clean Aviation Joint Undertaking replaced and succeeded the Clean Sky 2 Joint Undertaking, established by Regulation (EU) No 558/2014.

The seat of the Clean Aviation Joint Undertaking is located in Brussels, Belgium.

CAJU represents a unique Public-Private Partnership between the European Union (represented by the European Commission) and the aeronautic industry, managed by the Clean Aviation Joint Undertaking.

General objectives of the Clean Aviation JU:

- (a) to contribute to reducing the ecological footprint of aviation by accelerating the development of climate neutral aviation technologies for earliest possible deployment, therefore significantly contributing to the achievement of the general goals of the European Green Deal, in particular in relation to the Union-wide net greenhouse gas emissions reduction target of at least 55 % by 2030, compared to 1990 levels, and to a pathway towards reaching climate neutrality at the latest by 2050;
- (b) to ensure that aeronautics-related research and innovation activities, with particular focus on breakthrough technology initiatives, contribute to the global sustainable competitiveness of the Union aviation industry, and to ensure that climate-neutral aviation technologies meet the relevant aviation safety and security requirements, and that aviation remains a secure, reliable, cost-effective and efficient means of passenger and freight transportation;
- (c) to advance the European aviation research and innovation capacity.

Specific objectives:

- (a) to integrate and demonstrate disruptive aircraft technological innovations able to decrease net emissions of greenhouse gases by no less than 30 % by 2030, compared to 2020 state-of-the-art technology, while paving the ground towards climate-neutral aviation by 2050;
- (b) to ensure that the technological and the potential industrial readiness of innovations can support the launch of disruptive new products and services by 2035, with the aim of replacing 75 % of the operating fleet by 2050 and developing an innovative, reliable, safe and cost-effective European aviation system that is able to meet the objective of climate neutrality at the latest by 2050;
- (c) to expand and foster integration of the climate-neutral aviation research and innovations value chains, including academia, research organisations, industry and SMEs, also by benefiting from exploiting synergies with other national and European related programmes and by supporting the uptake of industry-related skills across the value chain.

¹ COUNCIL REGULATION (EU) 2021/2085 of 19 November 2021 establishing the Joint Undertakings under Horizon Europe and repealing Regulations (EC) No 219/2007, (EU) No 557/2014, (EU) No 558/2014, (EU) No 559/2014, (EU) No 560/2014, (EU) No 561/2014 and (EU) No 642/2014. (OJ L 427/17. 30.11.2021)



The Clean Aviation Joint Undertaking builds on the experience gained from the Clean Sky and Clean Sky 2 Joint Undertakings.

The members of the Clean Aviation Joint Undertaking are:

- (a) the Union, represented by the Commission;
- (b) the founding members listed in Annex I of Regulation 2021/2085, upon notification of their decision to accede to the Clean Aviation Joint Undertaking by means of a letter of commitment;
- (c) the associated members to be selected by open and transparent calls for expression of interest.

The members of the Clean Aviation Joint Undertaking other than the Union are referred to as the 'private members'.

The Clean Aviation Joint Undertaking is jointly funded by the Union and the private members and their affiliated entities through financial contributions paid in instalments and contributions consisting of the costs incurred by them in implementing indirect actions that are not reimbursed by the Clean Aviation Joint Undertaking (in-kind contributions).

The Union financial contribution to the Clean Aviation Joint Undertaking, including EEA appropriations, to cover administrative costs and operational costs will be up to EUR 1,700,000,000, including up to EUR 39,223,000 for administrative costs.

The members of the Clean Aviation Joint Undertaking other than the Union shall make or arrange for their constituent or affiliated entities to make a total contribution of at least EUR 2,400,000,000, including up to EUR 39,223,000 for administrative costs.

In line with the principle of fair sharing of contributions among the members of joint undertakings, financial contributions to the administrative costs of the joint undertakings should be divided equally between the Union and the members other than the Union.

Governance

Bodies of the Clean Aviation Joint Undertaking:

- (a) the Governing Board;
- (b) the Executive Director;
- (c) the states' representatives group;
- (d) the Technical Committee;
- (e) the European Clean Aviation Scientific Advisory Body.

The Governing Board of the Clean Aviation Joint Undertaking is composed of:

- (a) two representatives of the Commission on behalf of the Union;
- (b) fifteen representatives of the members other than the Union chosen by and from the founding members and associated members ensuring a balanced representation of the aeronautical value chain. The governing board rules of procedure provides for a rotation



mechanism for the allocation of the seats of the members other than the Union taking into account gender balance. The selected representatives include at least one representative of the European SMEs, at least two representatives of the research organisations and at least one representative of the higher education institutions.

The members other than the Union collectively hold 50 % of the voting rights.

The financial reporting of the CAJU is governed by the provisions of the Financial Rules of the Clean Aviation Joint Undertaking², which take into account the particular needs to combine public and private funding. The Final Accounts comprise of the financial statements of the JU and the reports on implementation of the budget.

The Final Accounts 2021 cover the period 1st January to 31st December 2021.

² Governing Board decision ref. CS-GB-Writ proc. 2019-07, adopted on 27 January 2020; re-adopted on 16 December 2021 by the CAJU Governing Board under the “omnibus” Decision CAJU-GB-2021-12-16

2 FINANCIAL STATEMENTS

2.1 Balance Sheet

BALANCE SHEET			
ASSETS		31/12/2021	31/12/2020
A. NON CURRENT ASSETS			
Property, plant and equipment (net)	4.1.1	114.516,00	128.982,00
Intangible assets (net)		0,00	3.133,00
TOTAL NON-CURRENT ASSETS		114.516,00	132.115,00
B. CURRENT ASSETS			
Short-term pre-financing		42.520.213,76	161.767.195,85
Short-term pre-financing Clean Sky JU	4.1.2	42.520.213,76	161.767.195,85
Short-term receivables		84.146.221,02	79.688.330,36
Short term receivables - recoveries from members and partners		2.282.497,95	2.660.150,26
Deferred charges and accrued income		119.204,59	55.251,12
Central treasury liaison accounts		81.744.518,48	76.972.928,98
Cash and cash equivalents		0,00	0,00
TOTAL CURRENT ASSETS		126.666.434,78	241.455.526,21
TOTAL ASSETS		126.780.950,78	241.587.641,21
LIABILITIES		31/12/2021	31/12/2020
C. NET ASSETS			
Contributions received from Members (EU & industry)	4.2.1	2.377.576.696,81	2.289.001.136,24
Contributions in kind received from Members (Industry)		1.174.301.658,01	1.174.301.658,01
Contributions used during previous years		(3.378.400.187,50)	(2.984.870.261,18)
Contributions used during the year (EOA)		(320.939.899,73)	(393.529.926,32)
TOTAL NET ASSETS		(147.461.732,41)	84.902.606,75
D. CURRENT LIABILITIES			
Members contribution to be validated		242.470.599,18	136.310.007,19
Accounts payable and accrued charges		31.772.084,01	20.375.027,27
Amounts payable - consolidated entities	4.2.2	0,00	0,00
Amounts payable - beneficiaries and suppliers		5.667.983,18	12.186.443,85
Amounts payable - other		125.332,74	53.788,38
Accrued charges		25.978.768,09	8.134.795,04
Provision for risks and charges - short term		0,00	0,00
Provision for risks and charges - short term		0,00	0,00
TOTAL CURRENT LIABILITIES		274.242.683,19	156.685.034,46
TOTAL LIABILITIES		126.780.950,78	241.587.641,21

2.2 Statement of Financial Performance

STATEMENT OF FINANCIAL PERFORMANCE			
	Ref.	2021	2020
REVENUES			
NON-EXCHANGE REVENUES			
Recovery of expenses	4.3.1	1.432.706,22	1.835.086,57
Exchange gains		274,15	2.855,53
TOTAL NON-EXCHANGE REVENUES		1.432.980,37	1.837.942,10
OPERATIONAL EXPENSES			
Operational expenses funded by CSJU in cash	4.3.2	208.717.085,49	264.371.536,43
Operational expenses contributed in kind by members		106.160.591,99	123.674.114,98
TOTAL OPERATIONAL EXPENSES		314.877.677,48	388.045.651,41
OPERATING EXPENSES			
Staff expenses	4.3.3	4.700.157,41	4.569.157,76
Administrative expenses		2.795.715,54	2.750.817,23
Total administrative expenses		7.495.872,95	7.319.974,99
Other operating expenses			
Exchange losses		395,21	2.973,67
Total other operating expenses		395,21	2.973,67
TOTAL OPERATING EXPENSES		7.496.268,16	7.322.948,66
OPERATING RESULT		(320.940.965,27)	(393.530.657,97)
FINANCIAL INCOME			
Interest on late payment (income)	4.3.4	2.247,95	1.121,93
Total financial income		2.247,95	1.121,93
FINANCIAL EXPENSES			
Financial expenses	4.3.4	1.182,41	390,28
Total financial expenses		1.182,41	390,28
FINANCIAL RESULT		1.065,54	731,65
ECONOMIC RESULT OF THE YEAR		(320.939.899,73)	(393.529.926,32)

2.3 Statement of Changes in Net assets 2021

Changes in Net Assets and Liabilities	EURO	EURO
Net Assets		
Balance as of 31st December 2020		84.902.606,75
Contributions received from members during the year 2021:		
Private members	3.609.095,57	
European Commission	84.966.465,00	
Private members contributions in kind from 2008-2020 validated in 2021	0,00	
Total contributions in 2021		88.575.560,57
Economic Outturn for 2021		(320.939.899,73)
Balance as of 31st December 2021		(147.461.732,41)

2.4 Cash Flow Analysis³

	2021
Economic result of the year	(320.939.899,73)
Operating activities	
Amortisation and depreciation	63.974,90
Non-cash expenses in-kind	106.160.591,99
Cash contributions from Members (EC & Industry)	88.575.560,57
Increase/(decrease) in provisions for risks and liabilities	0,00
(Increase)/decrease in pre-financing	119.246.982,09
(Increase)/decrease in exchange receivables and non-exchange recoverables	(4.457.890,66)
Increase/(decrease) in payables and accruals	11.397.056,74
Other non-cash movements	0,00
Net Cash Flow from operating activities	46.375,90
Investing activities	
(Increase)/decrease in intangible assets and property, plant and equipment	(46.375,90)
Net Cash Flow from investing activities	(46.375,90)
Net increase/(decrease) in cash and cash equivalents	(0,00)
Cash and cash equivalents at the beginning of the period	0,00
Cash and cash equivalents at the end of the period	(0,00)

³ The treasury of the CAJU is managed by the European Commission's treasury services. Due to this the joint undertaking does not have any bank accounts of its own. All payments and receipts are processed via the Commission's treasury and registered on intercompany accounts that are presented under the heading exchange receivables.

3 NOTES TO THE FINANCIAL STATEMENTS

3.1 Accounting Principles

The financial statements for the financial year 2021 are prepared on the basis of the EU Accounting Rules which adapt the International Public Sector Accounting Standards (and in some cases the International Financial Reporting Standards) to the specific environment of the European Union, while the reports on implementation of the budget continue to be primarily based on movements of cash. They are in line as well with Regulation (EU, Euratom) No 2018/1046 ("Financial Regulation")⁴ and with the CAJU Financial Rules.

The objectives of the financial statements are to provide information about the financial position, performance and cash flows of an entity that is useful to a wide range of users. In the particular case of the CAJU, considering its nature and activities, the objectives are to provide information for decision making, and to demonstrate the accountability of the entity for the resources entrusted to it.

The overall considerations (or accounting principles) to be followed when preparing the financial statements are laid down in EU Accounting Rule 1 'Financial Statements' and are the same as those described in IPSAS 1: fair presentation, accrual basis, going concern, consistency of presentation, materiality, aggregation, offsetting and comparative information. The qualitative characteristics of financial reporting are relevance, reliability, understandability and comparability.

3.2 Basis of preparation

3.2.1 Reporting period

Financial statements are presented annually. The accounting year begins on 1 January and ends on 31 December.

3.2.2 Currency and basis for conversion

The financial statements are presented in euro, which is the CAJU's functional and reporting currency. Foreign currency transactions are converted into euro using the exchange rates prevailing at the dates of the transactions.

Year-end balances of monetary assets and liabilities denominated in foreign currencies are converted into euro on the basis of the exchange rates applicable on 31 December 2021.

⁴ OJ L 193, 30.7.2019.

Foreign exchange gains and losses resulting from the settlement of foreign currency transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the economic outturn account.

3.2.3 Use of estimates

In accordance with IPSAS and generally accepted accounting principles, the financial statements necessarily include amounts based on estimates and assumptions by management based on the most reliable information available. Significant estimates include, but are not limited to; accrued and deferred income and charges, provisions, financial risk on accounts receivables, contingent assets and liabilities, and degree of impairment of assets. Actual results could differ from those estimates.

Reasonable estimates are essential part of the preparation of financial statements and do not undermine their reliability. An estimate may need revision if changes occur in the circumstances on which the estimate was based or as a result of new information or more experience. By its nature, the revision of an estimate does not relate to prior periods and is not the correction of an error. The effect of a change in accounting estimate shall be recognised in the surplus or deficit in the periods in which it becomes known.

3.2.4 Accounting Rules

The accounting rules applied by the Clean Aviation Joint Undertaking allow for consolidation with the accounts of the EU institutions. In accordance with Article 50 of the Financial Rules of the CAJU the financial statements shall be drawn in accordance with generally accepted accounting principles for the public sector as outlined in the accounting rules according to Article 80 of Regulation (EU, Euratom) No 2018/1046 or the accrual based International Public Sector Accounting Standards (hereafter "IPSAS").

3.3 Balance Sheet

3.3.1 Intangible assets

Acquired computer software licences are stated at historical cost less accumulated amortisation and impairment losses. The assets are amortised on a straight-line basis over their estimated useful lives. The estimated useful lives of intangible assets depend on their specific economic lifetime or legal lifetime determined by an agreement. Internally developed intangible assets are capitalised when the relevant criteria of the EU accounting rules are met. The costs to capitalise include all directly attributable costs necessary to create, produce, and prepare the asset to be capable of operating in the manner intended by management. Costs associated with research activities, non-capitalisable development costs and maintenance costs are recognised as expenses as incurred.

3.3.2 Property, plant and equipment

All property, plant and equipment are stated at historical cost less accumulated depreciation and impairment losses. Historical cost includes expenditure that is directly attributable to the acquisition or construction of the asset. Subsequent costs are included in the asset's carrying

amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits or service potential associated with the item will flow to the entity and its cost can be measured reliably. Repairs and maintenance costs are charged to the statement of financial performance during the financial period in which they are incurred. Land and works of art are not depreciated as they are deemed to have an indefinite useful life. Assets under construction are not depreciated as these assets are not yet available for use. Depreciation on other assets is calculated using the straight-line method to allocate their cost less their residual values over their estimated useful lives, as follows:

Type of asset	Straight line depreciation rate
Intangible assets – Computer software	25%
Plant machinery and equipment	12.5% to 25%
Furniture	10% to 25%
Fixtures and fittings	12.5% to 25%
Computer hardware	25%

Gains or losses on disposals are determined by comparing proceeds less selling expenses with the carrying amount of the disposed asset and are included in the statement of financial performance.

3.3.3 Leases

Leases of tangible assets, where the entity has substantially all the risks and rewards of ownership, are classified as finance leases. Finance leases are capitalised at the inception of the lease at the lower of the fair value of the leased asset and the present value of the minimum lease payments. The interest element of the finance lease payment is charged to statement of financial performance over the period of the lease at a constant periodic rate in relation to the balance outstanding. The rental obligations, net of finance charges, are included in financial liabilities (non-current and current). The interest element of the finance cost is charged to the statement of financial performance over the lease period so as to produce a constant periodic interest rate on the remaining balance of the liability for each period. The assets held under finance leases are depreciated over the shorter of the assets' useful life and the lease term.

Leases where the lessor retains a significant portion of the risks and rewards inherent to ownership are classified as operating leases. Payments made under operating leases are charged to the statement of financial performance on a straight-line basis over the period of the lease.

3.3.4 Pre-financing

Pre-financing is a payment intended to provide the beneficiary with a cash advance, i.e. a float. It may be split into a number of payments over a period defined in the particular contract, decision, agreement or basic legal act. The float or advance is either used for the purpose for

which it was provided during the period defined in the agreement or it is repaid. If the beneficiary does not incur eligible expenditure, he has the obligation to return the pre-financing advance to the entity. The amount of the pre-financing may be reduced (wholly or partially) by the acceptance of eligible costs (which are recognised as expenses). Pre-financing is, on subsequent balance sheet dates, measured at the amount initially recognised on the balance sheet less eligible expenses (including estimated amounts where necessary) incurred during the period.

3.3.5 Receivables

As the EU accounting rules require a separate presentation of exchange and non-exchange transactions, for the purpose of drawing up the accounts, receivables are defined as stemming from non-exchange transactions (when the entity receives value from another entity without directly giving approximately equal value in exchange) and recoverables are defined as stemming from exchange transactions.

Receivables are carried at original amount less write-down for impairment. A write-down for impairment is established when there is objective evidence that the entity will not be able to collect all amounts due according to the original terms. The amount of the write-down is the difference between the asset's carrying amount and the recoverable amount. The amount of the write-down is recognised in the statement of financial performance.

3.3.6 Cash and cash equivalents

Since 2017 the treasury of the CAJU is integrated into the European Commission's treasury system. Consequently, the joint undertaking does not have any bank accounts of its own. All payments and receipts processed via the Commission's treasury system. The transactions registered on intercompany accounts under the heading short-term receivables.

3.3.7 Net assets

Net assets are the residual of assets and liabilities and comprise of accumulated contributions received from the members of the JU (EU and industry) less the accumulated contributions used. The contributions include financial contributions received by the JU and contributions provided by the members to the funded projects in-kind. The net assets also contain reserves, if applicable.

Members' contributions

Financial contribution:

According to the notes of the Accounting Officer of the Commission (ARES (2010)303380 and ARES (2009)366251, Annex 2), subsidies and contributions that the JU receives from the European Union and other members are considered as investments of the members. They are not recognised in the financial statements of the JU as income from grants, but are treated as contributions from owners and are shown in the Net Assets of the JU as *Contribution received from Members (EU and industry)*. Financial contributions comprise of funds for operational expenses of the JU as well as for its running costs.

In-kind contributions:

Horizon 2020 programme

Under Horizon 2020 programme the total contribution from the private members shall be of at least Euro 2,193,750,000. The in-kind contribution consists of the following:

(a) *in-kind contributions to operational costs*: in-kind contributions by private members and their affiliated entities consisting of the costs incurred by them in implementing indirect actions less the contribution of the Clean Aviation Joint Undertaking and any other Union contribution to those costs.

(b) *in-kind contributions to additional activities*: in-kind contributions of at least Euro 965,250,000 consisting of the costs incurred by private members in implementing additional activities outside the work plan of the Clean Aviation Joint Undertaking contributing to the objectives of the Clean Sky Joint Technology Initiative.

The in-kind contributions to operational costs (IKOP) are linked to the work plan of the JU and co-financed by the Joint Undertaking. These contributions reflect the involvement of the private sector within the Joint Undertaking. These contributions are recognised as contributions from owners under the net assets heading of the balance sheet according to EU Accounting Rule 1.

The in-kind contributions in implementing additional activities (IKAA) are not part of the CAJU work programme and not co-financed by the Joint Undertaking. The IKAA contributions contribute to the overall Joint Technology Initiative, but they are not linked to the statutory tasks of the JU. Consequently the IKAA contributions, contrary to the IKOP contributions, are not recognised in the accounts of the JU. Additional information about the IKAA contributions is disclosed in the Annual Activity Report of the CAJU.

The in-kind contributions are subject to evaluation and opinion by the Governing Board.

Horizon Europe (HE) programme

The contributions of private members shall consist of financial contributions and any of the following:

- (a) in-kind contributions to operational activities;
- (b) in-kind contributions to additional activities, approved by the governing board.

The members of the Clean Aviation Joint Undertaking other than the Union shall make or arrange for their constituent or affiliated entities to make a total contribution of at least EUR 2,400,000,000, including up to EUR 39,223,000 for administrative costs.

In-kind contributions to operational activities accounted for solely on the basis of eligible costs, reported and audited in accordance with the mechanism applicable to the specific grant agreement. Such accounting on the basis of eligible costs allows for the automated calculation of in-kind contributions to operational activities via the Horizon Europe IT tools. In-kind contributions to operational activities will be monitored and regular reports will be prepared by the executive director. The governing board will assess both the efforts made and the results achieved by the members contributing to operational activities.

The additional activities are not part of the CAJU work plan and not co-financed by the Joint Undertaking. The IKAA contributes to the overall Joint Technology Initiative, but they are not linked to the statutory tasks of the JU. Consequently the IKAA, contrary to the IKOP, is not recognised in the accounts of the JU. Additional information about the IKAA contributions is disclosed in the Annual Activity Report of the CAJU.

Accounting treatment

The in-kind contributions to operational costs (IKOP) are reflected in the annual accounts of the JU at the end of the year. Contributions related to transmitted cost claims or calculated on the basis of estimates, are shown in the liabilities of the JU as *Contribution from members to be validated*. The related operational expense is included in the EOA and therefore appears in the *Contributions used during the year (EOA)*.

After the acceptance of the in-kind contributions by the Governing Board (H2020) or validation of the cost claims in the IT tools (HE), the contributions are shifted from the liabilities to the net assets as *Contributions received from members*.

3.3.8 Provisions

Provisions are recognised when the entity has a present legal or constructive obligation towards third parties as a result of past events, it is more likely than not that an outflow of resources will be required to settle the obligation, and the amount can be reliably estimated. Provisions are not recognised for future operating losses. The amount of the provision is the best estimate of the expenditure expected to be required to settle the present obligation at the reporting date. Where the provision involves a large number of items, the obligation is estimated by weighting all possible outcomes by their associated probabilities ('expected value' method).

3.3.9 Payables

Included under accounts payable are both amounts related to exchange transactions such as the purchase of goods and services and non-exchange transactions related e.g. to cost claims from beneficiaries, grants or other JU funding.

Where grants or other funding is provided to the beneficiaries, the cost claims are recorded as payables for the requested amount when the cost claim is received. Upon verification and acceptance of the eligible costs, the payables are valued at the accepted and eligible amount. Payables arising from the purchase of goods and services are recognised at invoice reception for the original amount and corresponding expenses are entered in the accounts when the supplies or services are delivered and accepted by the entity.

3.3.10 Accrued and deferred income and charges

Transactions and events are recognised in the financial statements in the period to which they relate. At year-end, if an invoice is not yet issued but the service has been rendered, the supplies have been delivered by the entity or a contractual agreement exists (e.g. by reference to a contract), an accrued income will be recognised in the financial statements. In addition, at year-end, if an invoice is issued but the services have not yet been rendered or the goods supplied have not yet been delivered, the revenue will be deferred and recognised in the subsequent accounting period. Expenses are also accounted for in the period to which they relate. At the end of the accounting period, accrued expenses are recognised based on an estimated amount of the transfer obligation of the period. The calculation of accrued expenses is done in accordance with detailed operational and practical guidelines issued by the Accounting Officer which aim at ensuring that the financial statements provide a faithful representation of the economic and other phenomena they purport to represent. By analogy, if a payment has been made in advance for services or goods that have not yet been received, the expense will be deferred and recognised in the subsequent accounting period.

3.4 Statement of Financial Performance

3.4.1 Revenue

Revenue comprises gross inflows of economic benefits or service potential received and receivable by the entity, which represents an increase in net assets, other than increases relating to contributions from owners.

Depending on the nature of the underlying transactions in the statement of financial performance it is distinguished between:

(i) Revenue from non-exchange transactions

Revenue from non-exchange transactions are taxes and transfers because the transferor provides resources to the recipient entity without the recipient entity providing approximately equal value directly in exchange.

Transfers are inflows of future economic benefits or service potential from non-exchange transactions, other than taxes. The entity shall recognise an asset in respect of transfers when the entity controls the resources as a result of a past event (the transfer) and expects to receive future economic benefits or service potential from those resources, and when the fair value can be reliably measured. An inflow of resources from a non-exchange transaction recognised as an asset (i.e. cash) is also recognised as revenue, except to the extent that the entity has a present obligation in respect of that transfer (condition), which needs to be satisfied before the revenue can be recognised. Until the condition is met the revenue is deferred and recognised as a liability (pre-financing received).

(ii) Revenue from exchange transactions

Revenue from the sale of goods and services is recognised when the significant risk and rewards of ownership of the goods are transferred to the purchaser. Revenue associated with a transaction involving the provision of services is recognised by reference to the stage of completion of the transaction at the reporting date.

3.4.2 Expenses

Expenses are decreases in economic benefits or service potential during the reporting period in the form of outflows or consumption of assets or incurrence of liabilities that result in decreases in net assets/equity. They include both the expenses from exchange transactions and expenses from non-exchange transactions.

Expenses from exchange transactions arising from the purchase of goods and services are recognised when the supplies are delivered and accepted by the entity. They are valued at original invoice amount. Furthermore, at the balance sheet date expenses related to the service delivered during the period for which an invoice has not yet been received or accepted are recognised in the statement of financial performance.

Expenses from non-exchange transactions account for the majority of the entity's operating expenses. They relate to transfers to beneficiaries and can be of three types: entitlements, transfers under agreement and discretionary grants, contributions and donations. Transfers are recognised as expenses in the period during which the events giving rise to the transfer occurred, as long as the nature of the transfer is allowed by regulation or an agreement has been signed authorising the transfer; any eligibility criteria have been met by the beneficiary; and a reasonable estimate of the amount can be made. When a request for payment or cost claim is received and meets the recognition criteria, it is recognised as an expense for the eligible amount. At year-end, incurred eligible expenses due to the beneficiaries but not yet reported are estimated and recorded as accrued expense.

3.5 Contingent Assets and Liabilities

3.5.1 Contingent assets

A contingent asset is a possible asset that arises from past events and of which the existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity. A contingent asset is disclosed when an inflow of economic benefits or service potential is probable.

3.5.2 Contingent liabilities

A contingent liability is a possible obligation that arises from past events and of which the existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity; or a present obligation that arises from past events but is not recognised because: it is not probable that an outflow of resources embodying economic benefits or service potential will be required to settle the obligation or, in the rare circumstances where the amount of the obligation cannot be measured with sufficient reliability.

4 NOTES

4.1 Notes to the Balance sheets - Assets

4.1.1 Non-Current Assets

4.1.1.1 Property, plant and equipment

In 2021 the JU acquired furniture and video-conferencing equipment items, replaced a few mobile phones.

4.1.1.2 Intangible fixed assets:

The JU developed internally a grant management tool (GMT2) to manage the grant agreements for Members (GAMs) under H2020 programme. In 2018, the contracts of the new GAMs were transferred into the EC common H2020 tools (Sygma/Compass). GMT2 is fully depreciated but not retired yet, since it is still used for consultation and for the reporting of the IKAA.

Intangible assets under development

According to the EU Accounting Rules an intangible asset shall be recognised if it is probable that the expected future economic benefits or service potential that are attributable to that asset will flow to the JU and the cost or fair value of the asset can be measured reliably.



Fixed Assets Analysis									
Tangible Fixed Assets									
Acquisition Costs					Depreciation				Residual value
Category of Assets	Opening balance at cost as of 01/01/2021	Additions in 2021	Disposals in 2021	Ending balance cost as of 31/12/2021	Opening depreciation as at 01/01/2021	Depreciation charge for 2021	Disposals in 2021	Closing accumulated depreciation as of 31/12/2021	Balance as of 31/12/2021
Total Plant, machinery and equipment	108.369,39	45.061,49	-	153.430,88	61.390,39	23.178,49	-	84.568,88	68.862,00
Total Computer Hardware	235.565,49	-	-	235.565,49	168.771,49	33.048,00	-	201.819,49	33.746,00
Total Furniture and Fixtures	77.973,52	1.314,41	-	79.287,93	62.764,52	4.615,41	-	67.379,93	11.908,00
Total Tangible Assets	421.908,40	46.375,90	-	468.284,30	292.926,40	60.841,90	-	353.768,30	114.516,00
Intangible Fixed Assets									
Acquisition Costs					Amortisation				Residual value
Category of Assets	Opening balance at cost as of 01/01/2021	Additions in 2021	Disposals in 2021	Ending balance cost as of 31/12/2021	Opening amortisation as at 01/01/2021	Amortisation charge for 2021	Disposals in 2021	Closing accumulated depreciation as of 31/12/2021	Balance as of 31/12/2021
Software	263.263,72	-	-	263.263,72	260.130,72	3.133,00	-	263.263,72	-
Software under development	-	-	-	-	-	-	-	-	-
Total Intangible Assets	263.263,72	-	-	263.263,72	260.130,72	3.133,00	-	263.263,72	-
TOTAL FA	685.172,12	46.375,90	-	731.548,02	553.057,12	63.974,90	-	617.032,02	114.516,00

4.1.2 Current Assets

4.1.2.1 Short-term pre-financing

Analysis of net pre-financing as of 31.12.2021								
	Balance as of 01.01.2021	Reversal of accrued of operational expense against pre-financing for project execution in 2020	Pre-financing used in 2021 through execution of projects	Pre-financing paid by the JU in 2021	Pre-financing recovered or reflected under receivables of the JU	Total amount of pre- financing before accrual as of 31.12.2021	Accrual of operational expense against pre- financing for project execution in 2021	Net pre-financing as of 31.12.2021
Members CS2 programme (H2020)	95.321.915,18	173.792.861,56	(132.304.210,56)	13.312.738,95	(20.894.823,38)	129.228.481,75	(120.622.137,91)	8.606.343,84
Partners CS2 Programme (H2020)	66.445.280,67	127.967.943,96	(50.135.663,91)	7.882.376,41	(492.140,09)	151.667.797,04	(117.777.509,52)	33.890.287,52
Pre-financing for procurement contract	0,00	0,00	0,0	23.582,40	0,00	23.582,40	0,00	23.582,40
Total	161.767.195,85	301.760.805,52	-182.439.874,47	21.218.697,76	-21.386.963,47	280.919.861,19	(238.399.647,43)	42.520.213,76

The pre-financing remains property of the CAJU until the performance of clearance through the acceptance of the expenditure reported in the cost claims. Under EU Accounting Rules the pre-financing balances are reduced at the year-end to the extent that costs relating project execution for each individual project have been accrued.

Under the H2020 programme, according to Article 38 (1) of the ‘H2020 Rules for participation’, a participant guarantee fund was established to cover the risk associated with non-recovery of sums due to the Union. Participants in actions under H2020 are obliged to make a contribution of 5 % of the JU funding for the action. The participants' contribution to the Fund is offset from the initial pre-financing by the JU and paid to the Fund on behalf of the participants. At the end of the action the amount contributed to the Fund is returned to the participants.

The Fund is managed by the Union, represented by the Commission acting as executive agent on behalf of the participants. The financial interest generated by the Fund is added to the Fund and serves exclusively for the purposes set out in Article 39(3).

Where amounts are due to the JU by a participant (e.g. in the event of a participant defaulting), the JU may recover effectively that amount from the Fund.

4.1.2.2 Short-term receivables

	2021	2020
Short term receivables - recoveries from members and partners	2.282.497,95	2.660.150,26
Running cost contribution	920.829,24	87.645,78
Recovery of unspent pre-financing	2.605.761,32	3.907.804,52
Recovery of ex-post result	1.150.056,34	1.041.235,45
Administrative recoveries	19.472,00	31.331,20
Amounts written down	-2.413.620,95	-2.407.866,69
Other short term receivables	119.204,59	55.251,12
Deferred charges and accrued income	119.204,59	55.251,12
Central treasury liaison accounts	81.744.518,48	76.972.928,98
Central treasury liaison accounts	81.744.518,48	76.972.928,98
Total short term receivables	84.146.221,02	79.688.330,36

According to the provisions of the Funding Agreement, the running cost contribution is invoiced to the private members based on the adopted administrative budget of the year. The unpaid running cost contribution at 31.12.2021 amounted Euro 920.829,24.

The recovery of unspent pre-financing contains the unpaid established recovery orders for Grant Agreements with Partners (Euro 2.605.761,32).

The ex-post audits resulted adjustments in favour of CAJU where the CAJU had previously recognised the original amount of the claim as an expense. For these adjustments, Euro 1.150.056,34 short term receivable was recognised in the books.

The write-down is the reduction in the book value of an asset when its fair value has fallen below the carrying book value. The value reduction is intended to indicate in the financial statements the probability of non-recovery of a claim. However, the CAJU does not give up recovering these claims in their entirety and putting all the appropriate procedures (legal proceedings) for their collection. The amount is related to pre-financing recoveries for which the JU has an on-going legal cases.



At year-end (excluding the recovery orders included in the write down) Euro 1.214.926,07 of the established recovery orders were outstanding:

RO type	Number of RO	RO Open Amount (Eur)
Running cost	8	920.829,24
Recovery of prefinancing	5	269.912,88
Expost recovery	2	24.183,95
Administrative recoveries	0	0,00
Total	15	1.214.926,07

Amounts to be recovered - ageing balance:

Year of Origin	Number of open recovery orders at 31/12/2021				Amount in € of the open balance of recovery orders at 31/12/2021			
	Total	thereof: against private members	thereof: against partners	thereof: against other entities	Total	thereof: against private members	thereof: against partners	thereof: against other entities
2019	1	1	0	0	4.353,56	4.353,56	-	-
2020	1	1	0	0	32.224,82	32.224,82	-	-
2021	13	9	4	0	1.178.347,69	951.490,23	226.857,46	-
TOTAL	15	11	4	0	1.214.926,07	988.068,61	226.857,46	-

The impairment allowance:

	2021	2020
Gross short term receivables	86.559.841,97	82.096.197,05
Impairment allowance opening balance	-2.407.866,69	-2.407.866,69
Impairment allowance movement of the year	-5.754,26	0,00
Impairment allowance closing balance	-2.413.620,95	-2.407.866,69
Total short term receivables	84.146.221,02	79.688.330,36

The treasury of CAJU is integrated into the Commission's treasury system. For this reason CAJU does not have any bank accounts of its own. All payments and receipts are processed via the Commission's treasury system and registered on intercompany accounts which are presented under the heading short term receivables.

4.1.2.3 Financial instruments and risk management policies

Financial instruments comprise cash, current receivables, current payables, and amounts due to and from consolidated entities. Financial instruments give rise to liquidity, credit, interest rate and foreign currency risks, information about which and how they are managed is set out below.

The carrying amounts of financial instruments are as follows:

	2021	2020
Long term pre-financing	0,00	0,00
Short term receivables - recoveries from members and partners	2.282.497,95	2.660.150,26
Deferred charges and accrued income	119.204,59	55.251,12
Short term pre-financing	42.520.213,76	161.767.195,85
Central treasury liaison accounts	81.744.518,48	76.972.928,98
Total financial assets – A	126.666.434,78	241.455.526,21
Financial liabilities		
Payables – long term liabilities	0,00	0,00
Amounts payable - beneficiaries and other	5.793.315,92	12.240.232,23
Accrued charges	25.978.768,09	8.134.795,04
Amounts payable - consolidated entities	0,00	0,00
Total financial liabilities – B	31.772.084,01	20.375.027,27
Total net financial instruments (A-B)	94.894.350,77	221.080.498,94

Liquidity risk

Liquidity is the risk that arises from the difficulty of selling an assets; for example, the risk that a given security or asset cannot be traded quickly enough in the market to prevent a loss or meet an obligation. Liquidity risk arises from the ongoing financial obligations, including settlement of payables.

CAJU's liabilities have remaining contractual maturities as summarised below:

At 31 December 2021	< 1 year	1 - 5 years	> 5 years	Total
Payables with third parties	31.772.084,01	0,00	0,00	31.772.084,01
Payables with consolidated entities	0,00	0,00	0,00	0,00
Total liabilities	31.772.084,01	0,00	0,00	31.772.084,01

All the financial liabilities have a remaining contractual maturity of less than 1 year.

Credit risk

Credit risk is the risk of loss due to a debtor's non-payment or other failure to meet a contractual obligation.



Treasury resources are kept with the EC treasury. The JU requests the subsidy from the EC two-three times a year based on cash forecasts. Member contribution to the running cost is collected in one instalment per year.

The maximum exposure to credit risk is:

	2021	2020
Receivables		
Long term pre-financing	0,00	0,00
Short term receivables - recoveries from members and partners	4.696.118,90	5.068.016,95
Deferred charges and accrued income	119.204,59	55.251,12
Short term pre-financing	42.520.213,76	161.767.195,85
Central treasury liaison accounts	81.744.518,48	76.972.928,98
Total financial assets	129.080.055,73	243.863.392,90
Impairment	-2.413.620,95	-2.407.866,69
Guarantees	0,00	0,00
Total credit risk	126.666.434,78	241.455.526,21

Credit quality of the JU's receivables:

	2021	2020
Counterparties with external credit rating:		
Prime and high grade	81.744.518,48	76.972.928,98
Upper medium grade	985.647,65	303.538,76
Lower medium grade	654.717,30	1.586.215,18
Non-investment grade	32.224,82	0,00
Unassigned	0,00	0,00
Counterparties without external credit rating:		
Group 1 - Debtors who never defaulted*	43.249.326,52	162.592.843,29
Group 2 - Debtors who defaulted in the past	0,00	0,00
Total credit risk	126.666.434,78	241.455.526,21

* including all the open pre-financings

Analysis of the age of the receivables:

	Neither past due nor impaired (1)	Past due but not impaired			Total (1+2+3+4)
		< 1 year (2)	1-5 years (3)	> 5 years (4)	
Available for sale financial assets (including accrued interest)	0,00	0,00	0,00	0,00	0,00
Cash and cash equivalents	0,00	0,00	0,00	0,00	0,00
Receivables with Member States	0,00	0,00	0,00	0,00	0,00
Receivables with third parties	44.885.337,92	32.224,82	4.353,56	0,00	44.921.916,30
Receivables with consolidated entities	81.744.518,48	0,00	0,00	0,00	81.744.518,48
Total	126.629.856,40	32.224,82	4.353,56	-	126.666.434,78

Market risk

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprises three types of risk: currency risk, interest rate risk, and other price risk.

Foreign currency risk

All financial assets and liabilities are in EUR therefore the CAJU has no currency exposure. When miscellaneous receipts are received in currencies other than EUR, they are converted into EUR and transferred to accounts held in EUR. Intercompany accounts with the EC treasury held by CAJU are in EUR, no material foreign currency risk with regard to these assets.

Interest rate risk

The treasury resources kept with the EC treasury do not earn interest.

4.1.2.4 Contingent Assets

	2021	2020
Draft ex-post audit results in favour of the JU	892.253,83	2.091.634,12
Total contingent assets	892.253,83	2.091.634,12

Potential recoveries of costs from members resulting from ex-post audits

The JU commissioned a number of ex-post audits of cost claims relating to GAMs and GAPs in 2021. As at the date of preparation of the Final Accounts 2021, the results of several of these audits had yet to be formally finalised. In a number of cases the auditors noted several adjustments, some in favour of the CAJU, and some in favour of members.

For those audits where the results have yet to be implemented and the inflows of economic benefit are not yet virtually certain, contingent assets are disclosed.

Summary table of the pending audit results:

CS2 (H2020) Programme:

Audit batch	Status of audit report	Treatment	Total adjustment
In favour of the beneficiary	Final	Expenditure	0,00
In favour of the beneficiary	Preliminary/ Draft	Contingent liability	117.450,20
In favour of the JU	Final	Short-term Receivable	1.048.099,88
In favour of the JU	Preliminary / Draft	Contingent asset	892.253,83

4.2 Notes to the Balance sheet - liabilities

4.2.1 Net Assets

Net assets	2021		2020	
Accumulated contributions received from Members (EC & others)	3.551.878.354,82		3.463.302.794,25	
Accumulated contributions used during previous years	(3.378.400.187,50)		(2.984.870.261,18)	
		173.478.167,32		478.432.533,07
Contributions used during the year (total expenses)	(322.375.128,05)		(395.368.990,35)	
Non-exchange and financial revenue	1.435.228,32		1.839.064,03	
Economic Outturn of the year (EOA)		(320.939.899,73)		(393.529.926,32)
Net assets		(147.461.732,41)		84.902.606,75

The *Accumulated contributions received from members* comprise of the entire funds received for the operational activity of the JU, which is managed through the Grant Agreements with members (GAMs) and partners (GAPs). Moreover, contributions to the running cost of the JU are included in this amount. For a detailed split, see the table at the end of this section (Carry forward of Net Assets 2021).

The *Accumulated contributions used during previous years* represent the total expense of previous years.

The *Contributions used during the year (EOA)* include the total expense incurred by the JU during the year 2021 as shown in the Economic Outturn Account of 2021. The operational expense shown in this amount contains the expenses incurred in-cash by the JU in 2021 for projects executed as well as the corresponding resources provided by the industry members relating to the same projects in-kind (see comments in the chapter Introduction, and in the chapter Accounting Rules).

The in-kind contribution included in the Net Assets of the JU has been approved by the Governing Board. A detailed split is shown in the following tables.

A part of the contribution provided by members to the research projects has not yet been validated by the JU's management and has not yet been presented for the approval of the Governing Board. It is therefore not reflected in the Net Assets of the balance sheet, but is shown as a current liability of the JU, see notes to 4.2.2.1. Members' contributions to be validated.

Carry forward of Net Assets 2021					
EC contribution to running costs (cash)					
Opening balance as of 01/01/21	Amount paid by EC in 2021	Running costs 2021 (50% share)	Adjustments to contributions	Financial income	Ending balance of EC contribution at 31/12/21
0,00	3.748.725,29	(3.748.725,29)	0,00	0,00	0,00
Other members contribution to running costs (cash)					
Opening balance as of 01/01/21	Amount charged to other members in 2021	Running costs 2021 (50% share)	Adjustments to contributions	Financial income	Ending balance of other members contribution at 31/12/21
4.355.149,27	3.609.095,57	(3.748.725,29)	0	2.247,95	4.217.767,51
EC contribution to operational costs (cash)					
Opening balance as of 01/01/21	Amount received from the EC in 2021	Operational expense 2021 related to EC contribution (in cash)	Rejected cost claims previously expensed	Financial income	Ending balance of EC contribution at 31/12/21
216.857.464,67	81.217.739,72	(208.717.085,49)	1.432.980,37	0,00	90.791.099,26
Other members contribution to operational expenses (in-kind)					
Opening balance as of 01/01/21	In-kind contribution made by other members in 2021	Operational expense 2021 related to in-kind contribution	Rejected cost claims previously expensed	Financial income	Ending balance of other members contribution at 31/12/21
(136.310.007,19)	0,00	(106.160.591,99)	0,00	0,00	(242.470.599,18)
Carry forward of Net Assets 2021 (totals)					
Net Assets as of 01/01/21	Contributions received during 2021	Contributions used during the year 2021	Adjustments	Financial income	Net Assets as of 31/12/21
84.902.606,75	88.575.560,57	(322.375.128,05)	1.432.980,37	2.247,95	(147.461.732,41)

Note on negative net assets:

As at 31 December 2021, the CAJU has reported negative net assets of Euro -147.461.723,41.

The main element derives from the non-validated member in-kind contribution of the H2020 (CS2) programme. All the reported in-kind contributions are booked on the EOA as operational expense, while only the in-kind contribution approved by the Governing Board is recognised in the Net Assets of the CAJU. The declared in-kind contributions related to 2020 and 2021 (and some of them related to the previous periods) have not been validated by management at the date of the preparation of the Final Accounts. The pending in-kind contributions related to 2020-2021 are going to be approved by the Governing Board later in 2022, when the IKOP will be certified and validated after the closure of the 2021-2021 GAMs.

The in-kind contributions for those cost not yet approved by the Governing Board are reflected in the liabilities of the Balance sheet as “contributions to be validated”. Following validation of in-kind contribution declarations by management and approval by the Governing Board in the coming years, these in-kind contributions will be transferred to the Net Assets of the CAJU.



The negative Net Assets do not indicate any risk of solvency, but are the consequence of the accounting method applied according to the specific accounting rules and guidance provided by the European Commission for the Joint Undertakings.

EC contribution

The total EC contribution to the CAJU in 2021 was Euro 84.966.465,00. The 2021 EC contribution to running costs is determined as 50% of gross running costs incurred in the year (Euro 3.748.725,29) with the remaining 2021 EC contribution attributed to operational expenses.

	Total contributions to 31/12/2020	Contributions in 2021	Total contributions to 31/12/2021
EC Contribution to running costs	33.491.398,95	3.748.725,29	37.240.124,23
Other members' contribution to running costs	37.960.418,31	3.609.095,57	41.569.513,88
EC contribution to operational expenses	2.217.549.318,99	81.217.739,72	2.298.767.058,70
Other members' in-kind contribution to operational expenses	1.174.301.658,01	0,00	1.174.301.658,01
Total contributions	3.463.302.794,25	88.575.560,57	3.551.878.354,82



The breakdown of the cumulative contributions made by the EC and other members to 31 December 2021 are as follows:

Contributions received up to 31.12.2021	European Commission		EC Total	Industrial Association		Private Members Total	Total		Grand Total
	Cash	In kind		Cash	In kind		Cash	In kind	
A. Running Costs	37.240.124,23	0,00	37.240.124,23	41.569.513,88	0,00	41.569.513,88	78.809.638,11	0,00	78.809.638,11
Previous years	33.491.398,95		33.491.398,95	37.960.418,31		37.960.418,31	71.451.817,26	0,00	71.451.817,26
Current year	3.748.725,29		3.748.725,29	3.609.095,57		3.609.095,57	7.357.820,86	0,00	7.357.820,86
B. Operational costs (R&D Projects)	2.298.767.058,70	0,00	2.298.767.058,70	0,00	1.174.301.658,01	1.174.301.658,01	2.298.767.058,70	1.174.301.658,01	3.473.068.716,71
Previous years	2.217.549.318,99		2.217.549.318,99		1.174.301.658,01	1.174.301.658,01	2.217.549.318,99	1.174.301.658,01	3.391.850.977,00
Current year	81.217.739,72		81.217.739,72		0,00	0,00	81.217.739,72	0,00	81.217.739,72
C. Other	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Previous years			0,00			0,00	0,00	0,00	0,00
Current year			0,00			0,00	0,00	0,00	0,00
TOTAL A+B+C	2.336.007.182,93	0,00	2.336.007.182,93	41.569.513,88	1.174.301.658,01	1.215.871.171,89	2.377.576.696,81	1.174.301.658,01	3.551.878.354,82

In-kind contributions

The detailed table below shows the validated in-kind contributions under Clean Sky Programme (FP7) as of 31.12.2021:

CS1 (FP7) programme approved In-Kind Contributions 2008 - 2016 projects	
ITD	Total contributions validated
ED	38.386.264,14
GRA	69.050.974,59
GRC	56.391.971,55
SAGE	157.364.949,08
SFWA	147.703.298,29
SGO	109.479.211,67
TE	14.589.106,12
TOTAL	592.965.775,43

Under the Clean Sky 2 Programme (H2020), the IKC consists of the in-kind contributions to operational costs (IKOP) (the costs incurred by the private members in implementing indirect actions less the contribution of the Joint Undertaking and any other Union contribution to those costs); and additional activities (IKAA; consisting of the costs incurred by private members in implementing additional activities outside the work plan of the Joint Undertaking contributing to the objectives of the Clean Sky Joint Technology Initiative.)

The IKOP is linked to the work plan of the JU and co-financed by the Joint Undertaking. These contributions are recognised as contributions from owners under the net assets heading of the balance sheet according to EU Accounting Rule 1.

The detailed table below shows the validated in-kind contributions to operational costs (IKOP) under the Clean Aviation Programme (H2020):

CS2 (H2020) programme approved In-Kind Contributions 2014 - 2019 projects						
SPD	IKOP validated (Written procedure 2017-02)	IKOP validated (Written procedure 2018-03)	IKOP validated (Written procedure 2018-05)	IKOP validated (Written procedure 2020-09)	IKOP validated (Written procedure 2021-04)	Total IKOP validated
AIR	9.620.362,03	3.104.740,98	44.246.428,09	46.933.248,49	185.091,92	103.719.687,67
ECO	-	-	1.583.132,62	1.312.854,68	-	2.895.987,30
ENG	13.067.187,01	92.919,42	66.382.299,21	382.056,77	65.066.295,27	144.226.644,14
FRC	5.298.658,81	296.775,99	20.291.362,76	43.986.802,16	-	69.873.599,72
LPA	5.189.390,31	5.269.312,49	33.162.655,41	1.603.486,63	86.890.121,91	132.114.966,75
REG	800.516,68	4.242.346,69	13.893.246,00	22.176.093,08	-	41.112.202,45
SAT	-	144.285,21	110.063,88	153.747,25	-	408.096,34
SYS	5.192.479,67	1.689.797,72	39.802.288,16	39.336.933,12	355,60	86.021.854,27
TE	-	-	371.350,86	591.493,08	-	962.843,94
TOTAL	39.168.594,51	14.840.178,50	219.842.826,99	155.712.601,72	151.771.680,86	581.335.882,58



The IKAA is not part of the CAJU work plan and not co-financed by the Joint Undertaking. The IKAA contributes to the overall Joint Technology Initiative, but they are not linked to the statutory tasks of the JU. Consequently the IKAA, contrary to the IKOP, is not recognised in the accounts of the JU. Additional information about the IKAA contributions is disclosed in the Annual Activity Report of the CAJU.

The declared but not yet certified/validated IKOP is booked under the heading “Members’ contribution to be validated” (see point 4.2.2.1).

4.2.2 Current liabilities

4.2.2.1 Members' contributions to be validated

The amounts represent the not yet validated contributions provided by members in-kind for the execution of GAMs. After validation of the contributions through the Governing Board, the amounts will be shifted to Net Assets and presented as Contribution received from members (see notes to 3.3.7 Net Assets).

	2021	2020
CS2 programme (H2020) contribution pending validation	242.470.599,18	136.310.007,19
Members' contribution to be validated	242.470.599,18	136.310.007,19

4.2.2.2 Accounts payable

	2021	2020
Amounts payable - consolidated entities	0,00	0,00
Payable to the H2020 Guarantee Fund	0,00	0,00
Amounts payable to beneficiaries and suppliers	5.667.983,18	12.186.443,85
Amounts payable to members and partners for cost claims and payables concerning invoices for running costs not yet paid at the year-end.	5.667.983,18	12.186.443,85
Other payables	125.332,74	53.788,38
Returned payments	125.332,74	53.788,38
Accrued charges	25.978.768,09	8.134.795,04
Expenses pertaining to the financial year 2021 for which invoices/claims are received only subsequently in 2022	25.978.768,09	8.134.795,04
Total accounts payable	31.772.084,01	20.375.027,27

Accrued charges

For expenses pertaining to the financial year 2021, when invoices/cost claims were received only subsequently in 2022, the following amounts have been accrued:

	2021	2020
	Total	Total
Accrued administrative expenses	317.736,58	324.637,56
Accrued operational expense	25.661.031,51	7.810.157,48
Accrual of operational expense related to GAMs	16.589.795,36	317.966,46
Accrual of operational expense related to GAPs	9.071.236,15	7.492.191,02
Total accrued charges	25.978.768,09	8.134.795,04

The part of the accrued operational expenses which exceeds the paid pre-financings has been accrued in the liabilities of the JU.

4.2.2.3 Short-term provisions for risks and charges

	2021	2020
Provision for doubtful debts	0,00	0,00
Total provision for risks and charges - short term	0,00	0,00

4.2.2.4 Contingent liabilities

	2021	2020
Draft ex-post audit results in favour of the beneficiary	117.450,20	198.310,10
Ex-post audit expenditure incurred by the EC Common Support Service	801.900,00	801.900,00
Total contingent liabilities	919.350,20	1.000.210,10

As noted in Note 4.1.2.4 (Contingent Assets), the JU commissioned a number of ex-post audits of cost claims relating to GAMs and GAPs in 2021. As at the date of preparation of the Final Accounts 2021, some of the audit reports are still not implemented. The CAJU management considers that the outcome of these audits is a possible obligation. Taking into account the immature status of these audit results they are disclosed as contingent liabilities.

Employer pension contributions

Following the audit clearing letter⁵ of the Court of Auditors on 17 November 2021, CAJU received a finding concerning the employer's contributions to the EU pension scheme. The

⁵ Audit of the Clean Sky 2 Joint Undertaking for the financial year 2021. Clearing letter for preliminary findings of the audit from 8 to 12 November 2021; reference CL-13029.

Court stated that, in accordance with Article 83a(2)⁶ of the Staff Regulations, the JU should pay on the 50% of the administrative costs funded by the Industry Members, the part of the employer contribution retroactively from 1 January 2016 (since the provision is in force). The JU staff remunerations and related social contributions have always been calculated by the EC payroll services, therefore the JU contacted DG BUDGET in order to get the Commission's position on this matter. Currently there are contradicting interpretations about the applicability, the retroactivity and the calculation method.

According to the JU calculation, the potential liability varies between null (if the provision is not applicable) and 1.92 million Euro (depending on the retroactivity and calculation method):

Calculation method	Retroactivity applied (EUR)	Retroactivity not applied (EUR)	Future obligation for 2022 (EUR)
	01/01/2016 - 31/12/2021	01/12/2021 - 31/12/2021	
Private contribution ratio on admin budget (50%)	1.924.543	32.916	414.747
Private contribution ratio on total budget	83.676	1.485	18.707

The JU is awaiting for the final decision as regards to the application of Article 83a(2) of the Staff regulation. At the time of drawing up the Final Accounts, the financial impact cannot be quantified with certainty.

Dilapidation cost of the building

Dilapidation cost are the liabilities to put back a property at the end of the lease into the same condition it was when the lessee commenced the lease.

The lease contract of the White Atrium building (occupied by several joint undertakings) includes an article about the dilapidation cost ("restitution du Bien"). The provision allows the option not to remove the improvements done on the building, but to leave them behind, with the owner's agreement, without any compensation.

The JUs contacted the representatives of the owner and they stated that they would ask for the floors to be restored unless it is found that the constructions represent added value. This will be decided only at the time of reception of the letter of termination from the tenant. Taking into account that all the works were agreed with the owner, the JUs consider that they add value to the building, therefore it is possible to reach an agreement allowing the JUs not to restore the building to its original state at the end of the lease. Consequently no liabilities are recognised in the accounts for the dilapidation cost.

Amounts relating to legal cases

CAJU has no on-going legal case which could result a liability.

⁶ "From 1 January 2016 agencies which are partly financed from that budget shall pay the part of the employers' contributions which corresponds to the proportion between the agency's revenues without the subsidy from the general budget of the European Union and its total revenues."



4.3 Notes to the Statement of Financial Performance

4.3.1 Non-exchange revenue

	2021	2020
Other revenue - revenue from claims previously expensed	1.369.426,91	1.735.917,02
Miscellaneous administrative revenues	63.279,31	99.169,55
Exchange gains	274,15	2.855,53
Total non-exchange revenues	1.432.980,37	1.837.942,10

In 2021 the CAJU recovered ex-post audit findings related to previous periods' claims.

In accordance with EU Accounting Rule 3 (IV.2.1.4), these negative adjustments have been presented as 'Other Revenue' in the 2021 Final Accounts, and the corresponding liability in 'Members' Contributions to be validated' (if applicable) has been reduced accordingly.

Funds received in cash from the Commission and from the other members of the JU are shown as Contributions received from members in the Net Assets of the Balance Sheet. They do not appear as income of the JU in the EOA.

Financial income is disclosed in section 4.3.4 below.

4.3.2 Operational expenses

Operational expenses are related to the projects funded by the CAJU to speed up technological breakthrough developments and shorten the time to market for new and cleaner solutions tested on full scale demonstrators with the aim to contribute significantly to reducing the environmental footprint of aviation.

When any request for payment or cost claim is received and meets the validation criteria, it is recognised as an expense for the eligible amount. At year-end, incurred eligible expenses already due to the beneficiaries but not yet reported are estimated and recorded as accrued expenses.

Reporting period for the GAMs lasted from 1st January 2021 to 31st December 2021. Based on the estimated values by the SPDs about the incurred project cost the related operational expenditure for the year 2021 has been reflected in the Economic Outturn Account of the JU.

Projects managed through Grant Agreements for Partners (GAPs) last for different periods, which usually deviate from the calendar year. Operational expense relating to the year 2021 has been recognised by taking into account validated cost claims for applicable projects and periods. The remaining costs have been accrued assuming a pro-rata temporis execution of the projects.



	2021	2020
Operational expenses funded by CSJU in cash Clean Sky 2 Programme (H2020)	208.717.085,49	264.371.536,43
Operational expenses contributed by members in-kind Clean Sky 2 Programme (H2020)	106.160.591,99	123.674.114,98
Total operational expenses	314.877.677,48	388.045.651,41

Expenses per category of beneficiaries

	2021	2020
Members	233.291.036,59	286.763.642,45
Partners	81.586.640,89	101.282.008,96
Total operational expenses	314.877.677,48	388.045.651,41

4.3.3 Operating Expenses

4.3.3.1 Administrative expenses

	2021	2020
Staff expenses	4.700.157,41	4.569.157,76
Salaries and related costs incl. SNEs	4.700.157,41	4.569.157,76
Administrative expenses	2.795.715,54	2.750.817,23
Depreciation of tangible assets / Amortisation of intangible assets	63.974,90	90.026,12
Rental fee for the offices	586.807,65	562.620,04
Communication expenditure	487.120,00	541.466,28
Missions	7.724,48	47.958,00
Experts and related expenditures (Scientific Committee etc)	245.936,39	301.510,89
Maintenance and support of IT systems	424.420,74	411.521,47
Other external service provider (consultants, interim staff, ex-post audits etc)	934.746,58	752.737,07
Other	44.984,80	42.977,36
Total administrative expenses	7.495.872,95	7.319.974,99

At 31 December 2021 the JU employed 35 Temporary Agents, 6 Contract Agents and 1 Seconded National Experts.

4.3.3.2 Other operating expenses

	2021	2020
Exchange loss	395,21	2.973,67
Total other operating expenses	395,21	2.973,67

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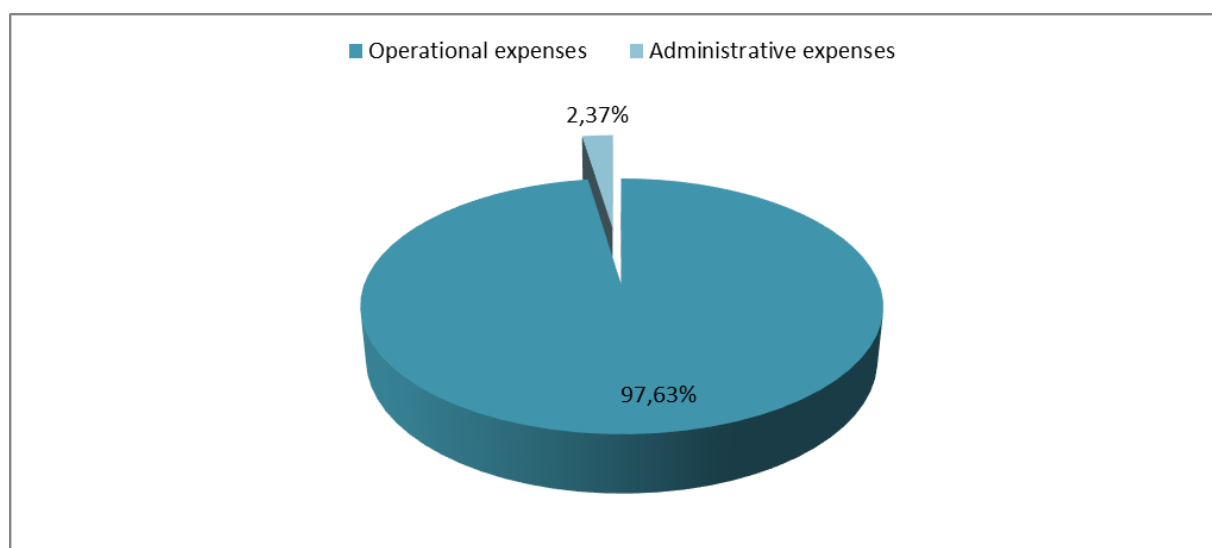
Exchange loss related to payments in other currency than EUR.

Administrative/total expenditure ratio

According to Art. 15(2) of the CAJU Regulation⁷ for the Clean Aviation (H2020) programme the administrative costs shall not exceed EUR 78 000 000. As of 31.12.2021 the CAJU utilised 59,98% of the available administrative budget:

	2021
Total administrative budget for the Clean Sky 2 Programme (H2020)	78.000.000,00
Administrative expenses Clean Sky 2 Programme in 2014 (H2020)	2.088.792,10
Administrative expenses Clean Sky 2 Programme in 2015 (H2020)	4.550.652,99
Administrative expenses Clean Sky 2 Programme in 2016 (H2020)	5.650.369,51
Administrative expenses Clean Sky 2 Programme in 2017 (H2020)	5.795.131,54
Administrative expenses Clean Sky 2 Programme in 2018 (H2020)	6.944.799,84
Administrative expenses Clean Sky 2 Programme in 2019 (H2020)	6.941.896,62
Administrative expenses Clean Sky 2 Programme in 2020 (H2020)	7.319.974,99
Administrative expenses Clean Sky 2 Programme in 2020 (H2020)	7.495.872,95
Total administrative expenses used until 31.12.2020	46.787.490,54
Available administrative budget for the Clean Sky 2 Programme (H2020)	31.212.509,46

The overall ratio between the administrative and total expenditure for 2021 is 2,33 %.



⁷ Council Regulation (EU) No 558/2014

4.3.4 Financial Income and Expenses

4.3.4.1 Financial income

	2021	2020
Interest income on late payment	2.247,95	1.121,93
Total financial income	2.247,95	1.121,93

According to Art.30(2) of the CAJU Financial Rules, the contributions paid to the CAJU by its Members shall bear interest to the benefit of its budget. The interest earned is reflected in the EOA under revenues and thus adds to the total of the Net Assets in the Balance Sheet of the JU.

4.3.4.2 Financial expenses

	2021	2020
Interest expense on late payment	1.182,41	390,28
Total financial expenses	1.182,41	390,28

On the expiry of the time limits laid down in the Financial Rules, the creditors are entitled to late payment interest. (In the event that the interest calculated is lower than or equal to EUR 200, it is paid to the creditor only on a request submitted within two months of receiving late payment.)

RELATED PARTIES

			Loans to related parties	
Highest grade description	Grade	Number of persons of this grade	Nominal amount	Remaining open amount as of 31/12
Executive Director	AD14	1	0,00	0,00



OTHER EVENTS

COVID-19

Since the first half of 2020, the coronavirus outbreak has had big impacts on the EU economy. As a non-adjusting event, the outbreak of the coronavirus does not require any adjustments to the figures reported in the 2021 annual accounts.

Revenues:

There was no material effect, 100% of the 2021 EC subsidies and 99,46% of the private members cash contributions to the 2021 administrative cost were collected until the Final accounts are drawn up.

Operational activities:

The outbreak of the COVID-19 disease has severely impacted the big industrial players, their supplier chains and nearly all other entities in the sector. In 2021, some signs of recovery have been observed but there is still a high degree of uncertainty linked to the evolution of the pandemic.

In this context, the progress of the Clean Sky 2 programme has inevitably been impacted by the COVID-19 situation. Overall, the scope of Clean Sky 2 Programme is preserved and the contribution to high level goals is confirmed with >70% of demonstrators to be completed in the last 2 years. However delays are reported for 23% of Demos with an average delay of 6.5 months. It is worth noting that those delays will be recovered by the Programme end, except for 2 demonstrators postponed beyond 2023 (LPA-01-D10 Ultrafan FT & ENG UHPE). The JU is closely monitoring the CS2 activities in order to avoid any further delays and trigger specific actions where necessary, possibly with additional contributions to the Programme in some areas (CS2 funding or national programmes).

Budgetary aspects:

Linked to above-mentioned factors, some of the budgetary execution rates are still lower in 2021 than planned. However thanks to the budget management flexibility deriving from the derogation granted to the JU, allowing that the unused appropriations can be re-entered to the following 3 years, the JU will be able to ensure the maximum utilisation of the available funds.



RUSSIA-UKRAINE WAR

In accordance with EU accounting rule 19, Events after Reporting Date, the war in Ukraine, that began in February 2022 is a non-adjusting event, thus not requiring any adjustments to the figures reported in these financial statements at 31 December 2021.

CAJU has only three ongoing projects involving Ukrainian beneficiaries, the possible effect both on the operational and financial side is not significant.

For subsequent reporting periods, the war may affect the recognition and measurement of some assets on the balance sheet and also of some expenses recognised in the statement of financial performance. Based on the facts and circumstances at the time of preparation of these financial statements, in particular the evolving situation, the financial effect of the war in Ukraine cannot be reliably estimated.

BREXIT

On 1 February 2020 the United Kingdom ceased to be a Member State of the European Union. Following the conclusion of the Agreement on the withdrawal of the United Kingdom of Great Britain and Northern Ireland from the European Union and the European Atomic Energy Community (the 'Withdrawal Agreement') between the two parties, the United Kingdom committed to pay all its obligations under the 2014-2020 MFF and previous financial perspectives following from its membership of the Union.

Art 138 of the Withdrawal Agreement clarified, that UK-based legal entities - thus including Clean Sky 2 programme beneficiaries (Members and Partners) established in the UK - will continue to be fully eligible to participate and receive funding under the 2014-2020 EU programmes including Horizon 2020, as if the UK were a Member State, until the completion of these programmes and activities.

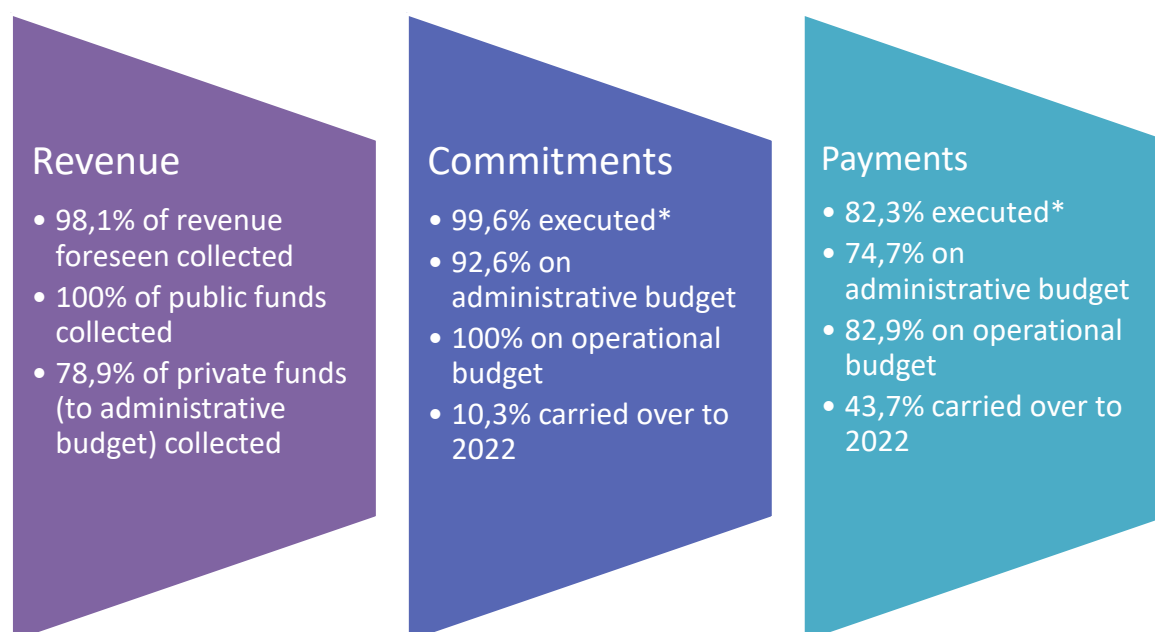
At the date of transmission of these accounts, and based on the Withdrawal Agreement concluded and already in operation, there is no financial impact to be reported in these accounts.

Other than the aforementioned items, at the date of transmission of these annual accounts, no material issues were reported that would require separate disclosure under this section. The annual accounts and related notes were prepared using the most recently available information.

5 BUDGETARY IMPLEMENTATION REPORT

5.1.1 Budget implementation at a glance

The present report provides an overview of the budget execution of the Clean Sky 2 programme in 2021⁸. The main highlights are shown below:



* excluding appropriations foreseen as 'unused'

5.1.2 Principles of the budgetary implementation

The CAJU budget is implemented in accordance with the JU financial rules.

The budget is the instrument which, for each financial year, forecasts and authorizes the revenues and expenditures considered necessary for the JU.

The budget is established and implemented in compliance with the principles of unity, budgetary accuracy, annuality, equilibrium, unit of account, universality, specification, sound financial management and transparency. The applicability of the budgetary principles requires effective and efficient internal control.

The principles of **unity** and **budget accuracy** mean that the expenditure and revenue must be incorporated in a single budget document and booked to a budget line. Expenditure must not exceed authorised appropriations by the budget. In addition, an appropriation must not be entered in the budget if it is not for an item of expenditure considered necessary.

⁸ The Clean Aviation programme implementation will start in 2022.



The principle of **annuality** implies that the appropriations entered in the budget shall be authorized for a financial year which shall run from 1 January to 31 December, and shall contain non-differentiated appropriations and differentiated appropriations.

The principle of **equilibrium** means that the revenue and expenditure shown in the budget must be in balance (estimated revenue must equal payment appropriations). The JU shall implement rigorous cash management, taking into account notably assigned revenue, in order to ensure that its cash balances are limited to duly justified requirements, in particular to avoid surpluses at year end. With its payment requests, it shall submit detailed and updated forecasts on its real cash requirements throughout the year, including information on assigned revenue.

The principle of **unit of account** refers to the fact that the budget is drawn up and implemented in euro (€) and the JU accounts are presented in euro (€).

The principle of **universality** comprises two rules: the rule of non-assignment, meaning that budget revenue must not be earmarked for specific items of expenditure (total revenue must cover total expenditure) and the gross budget rule, meaning that revenue and expenditure are entered in full in the budget without any adjustment against each other. Adjustments may be made in respect of exchange differences occurring in the implementation of the budget. The provisional gain or loss shall be included in the balance for the year.

The principle of **specification** means that each appropriation is assigned to a specific purpose and a specific objective, by title and chapter; the chapters shall be further subdivided into articles and items.

The principle of **sound financial management** is applied to the JU budget by ensuring that the appropriations are used in accordance with the principle of sound financial management, that is to say, in accordance with the principles of economy, efficiency and effectiveness. The principle of **economy** requires that the resources used by the JU in the pursuit of its activities shall be made available in due time, in appropriate quantity and quality and at the best price. The principle of **efficiency** concerns the best relationship between resources employed and results achieved. The principle of **effectiveness** concerns the attainment of the specific objectives set and the achievement of the intended results.

The principle of **internal control** of budget implementation means that the JU budget shall be implemented in compliance with effective and efficient internal control in order to provide reasonable assurance of achieving effectiveness, efficiency and economy of operations; reliability of reporting; safeguarding of assets and information; prevention, detection, correction and follow-up of fraud and irregularities; and adequate management of the risks relating to the legality and regularity of the underlying transactions, taking into account the multi-annual character of the programmes as well as the nature of the payments concerned.

The principle of **transparency** implies that the budget is established and implemented and the accounts presented in compliance with the principle of transparency – the information on the budget and the accounts shall be easily accessible, transparent and comprehensive.

5.1.3 Use of Fund Sources in Budgetary management

The JU uses 4 fund sources for its budgetary management through the ABAC system:

C1: This represents the EU budget subsidy received from the European Commission and the private Members contribution to the running costs of the JU for the current financial year.

C2: This represents the cancelled appropriations from the previous year(s) re-entered to the next financial year. According to the JU financial rules, these can be used up to the following 3 financial years.



C4: This represents the appropriations which can be used again as a result of debit notes issued by the JU (otherwise known as internal assigned revenue) and received (cash) within the same year.

C8: This represents the appropriations which are automatically carried forward to meet obligations arising from previous years. For administrative expenditure and operational expenditure, only commitment appropriations can be carried forward and used until they are no longer needed for payment purposes. Any difference between what is carried forward and provisionally used shall be de-committed and converted into C2 fund source for the JU (see above).

The 2021 budget is distributed in the following budget titles:

Budget title	Year 2021 Appropriations	Re-entered appropriations from previous year(s)	Total budget 2021
1. Staff expenditure	5.751.967	0	5.751.967
2. Infrastructure expenditure	2.915.000	0	2.915.000
4. Operational expenditure CS2 (H2020)	45.520.903	109.741.843	155.262.746
5. Unused appropriations	16.198.700	2.004.661	18.203.361
Total	70.386.570	111.746.504	182.133.074

Management Information Systems

The JU used the following software during 2021:

- ABAC (Accrual Based Accounting) – EC budgetary accounting system
- SAP ERP – Accounting system and execution of payments
- SyGMA/COMPASS – EC tool for managing CS2 programme (H2020 Grant Agreements)
- EMI – EC tool for managing expert claims
- GMT2 (Grant Management Tool for Clean Sky 2 programme) – JU internal database containing information on the beneficiaries of the Grant Agreements for Members (GAMs) used for IKAA reporting and the follow-up of the 2014-2017 GAMs.

These information systems allow the efficient management of the JU appropriations while respecting the principles of the financial rules. The workflow system in ABAC and in SyGMA/COMPASS allows the Authorising Officer to ensure that the “four eyes” principle has been observed for each transaction. In addition, the delegations put in place by the authorising officer ensure that enough actors are involved in the workflow to ensure segregation of duties.

5.2 Budgetary outturn account 2021

For the financial year 2021, the balance of the budget outturn amounts to **82.401.978,50 €**.

	Title	2021	2020
REVENUE		189.049.825,17	356.782.106,41
<i>of which</i>			
Subsidies from the European Commission	1 0	84.966.465,00	311.377.988,00
Contributions from private Members	2 0	3.486.255,60	4.439.147,09
Re-entered unused appropriations from previous years	3 0	76.988.896,10	18.138.514,00
Recoveries	4 0	23.608.208,47	22.826.457,32
EXPENDITURE		106.647.725,61	279.616.013,40
<i>of which</i>			
Staff expenditure	A-1	5.443.432,96	5.138.797,26
Administrative expenditure	A-2	2.123.753,71	2.088.117,53
Operational expenditure CS2	B-4	99.080.538,94	272.389.098,61
Exchange differences for the year		-121,06	-118,14
Budget result		82.401.978,50	77.165.974,87

Notes to the budgetary outturn account

The outturn for the financial year corresponds to the total revenues actually cashed during the year plus appropriations carried over from previous years minus the total payments made during the year.

Revenue

The sources of revenue are explained in section 5.6.1. The amounts shown are the amounts cashed during 2021 and for the '*re-entered unused appropriations from previous years*', the amount actually carried over from 2020.

Expenditure

Details on the implementation of the statement of expenditure are provided in section 5.6. The expenses shown in Title 1 and 2 cover the JU's personnel and administrative costs. The amounts reflected in Title 4 include pre-financing paid for the activities carried out in the Grant Agreements for Members (GAMs) and Grant Agreements for Partners (GAPs) as well as interim and final payments for cost claims received (both GAMs and GAPs).

5.3 Reconciliation between budget outturn and economic outturn

The accounting system of the JU comprises general accounts and budgetary accounts. The budgetary accounts are based on the modified cash accounting principle while the general accounts are accruals based. The application of these different accounting principles leads to a different result in the budget outturn and in the economic outturn.

The table below highlights the differently treated elements reconciling the results of the two methods:

Reconciliation of accrual result with budgetary result	2021	2020
Economic result	-320.939.899,73	-393.529.926,32
<i>Adjustment for accrual items (items not in the budgetary result but included in the economic result)</i>		
Adjustments for Accrual Cut-off (reversal 31.12.N-1)	-320.302.343,27	-336.756.409,01
Adjustments for Accrual Cut-off (cut- off 31.12.N)	268.387.248,07	320.291.557,26
Operational expenses contributed in-kind by members	106.160.591,99	123.674.114,98
Inkind revenue deriving from retroactive adjustments	0,00	0,00
Unpaid invoices at year end but booked in charges (class 6)	304.412,88	1.525.652,96
Depreciation of intangible and tangible assets	81.100,81	90.026,12
Write off receivables	0,00	0,00
Recovery Orders issued in 2021 in class 7 and not yet cashed	-35.014,55	-375.010,98
Pre-financing cleared in the year 2021	182.416.292,07	235.928.931,34
Provisions	0,00	0,00
Financial expenses	80,78	0,77
Interest	-2.247,95	-1.121,93
<i>Adjustment for budgetary items (item included in the budgetary result but not in the economic result)</i>		
Asset acquisitions (less unpaid amounts)	-46.375,90	-89.241,12
Pre-financing paid in the year 2021	-21.195.115,36	-228.514.003,66
Budgetary recovery orders issued before 2021 and cashed in the year	275.481,05	4.731,46
Cash contribution from EU	84.966.465,00	311.377.988,00
Cashed contribution from members for running cost	3.486.255,60	4.439.147,09
Invoices paid in 2021 but booked in charges in 2020 (class 6)	-832.855,76	-53.940,85
Payment appropriations carried over from previous year	76.988.896,10	18.138.514,00
Cashed recovery orders for pre-financing recovery	22.689.006,67	21.014.964,76
Total	82.401.978,50	77.165.974,87
Budgetary result	82.401.978,50	77.165.974,87
Delta not explained	0,00	0,00



5.4 Clean Sky 2 Programme implementation

The Clean Sky 2 programme is built on a membership, complemented by activities performed by Partners. The membership of the Clean Sky 2 programme is comprised of:

- The European Commission, representing the Union and ensuring EU public policy;
- Leaders (and their Affiliates) as defined in the Statutes and committed to achieving the full research and demonstrator activities of the programme;
- Core Partners (and their Affiliates) selected through open and selective calls for Core Partners planned over the first years of the programme (2014-2017) and bringing substantial long-term commitment towards the programme.

Leaders' and Core Partners' participation and contributions are governed through the Grant Agreements for Members (GAMs) which set out the actions for the full period of the programme, via extendable multi-annual GAMs. The first Grant Agreements for Members (GAMs) for the period 2014-2015 were signed in December 2014 with only CS2 Leaders. Since then, GAMs have been renewed on a bi-annual basis in 2015 (GAMs 2016-2017), in 2017 (GAMs 2018-2019) and in 2019 (GAMs 2020-2021 extended at the end of 2021 for another 2 years until 2023, GAMs 2020-2023).

GAM contributions and activities are complemented by the Grant Agreements for Partners (GAPs), projects with a limited scope and commitment defined in topics launched in Calls for Proposals (CfP). Since the start of the programme, eleven calls for proposals (CfP01-CfP11) have been successfully implemented, resulting in the signature of 543 GAPs.

The maximum funding available as defined in the Council Regulation 558/2014 establishing the Clean Sky 2 Joint Undertaking is 1.755 million €, of which a maximum of 39 million € corresponds to the contribution towards the JU administrative costs. This leads to an estimated net funding available for the Clean Sky 2 research and innovation operations of 1.716 million €.

In addition, the JU needs to ensure the allocation of operational funds according to the Annex I art. 16 of the CS2JU Council Regulation:

- up to 40% shall be allocated to Leaders and their participating affiliates;
- up to 30% shall be allocated to Core Partners and their participating affiliates;
- at least 30% shall be allocated to Partners and calls for tenders.

The table below shows the distribution of estimated funding between Leaders, Core Partners and for Calls for Proposals/Tenders:

Funding envelope to completion	Allocation according to Regulation		2021 CS2 Development Plan	
Leaders	< 40%	< 686,4	39,1%	673,06
Core Partners	< 30%	< 514,8	29,5%	506,67
Calls for Proposals / Tenders	> 30%	> 514,8	31,4%	539,5
Total	1.716,0 million €		1.719,23 million € (max. funding of 1.716 million €)	
Of which Thematic Topics in CfPs			approx. 32,67 million €	
Of which ‘over commitment’			approx. 3,23 million €	

Currently, there is a deviation with reference to the maximum funding value of 1.716 million € of 3,23 million € (*‘over commitment’*). This extra funding allocation will serve as a buffer to absorb incomplete/failed activities and thus ensure that the funding allocated through competitive calls for proposals and calls for tenders will reach the minimum 30% established in the CS2JU Council Regulation.

The research, technology development and demonstration activities of the CS2 programme are structured into Innovative Aircraft Demonstration Platforms (IADPs), Integrated Technology Demonstrators (ITDs) and Transverse Activities (TAs). The table below shows the indicative allocation of funding per System and Platform Demonstrator (SPD):

CS2 System and Platform Demonstrator (SPD)		Allocation (million €)
Innovative Aircraft Demonstration Platform (IADP)	Large Passenger Aircraft (LPA)	492,12
	Regional Aircraft (REG)	107,87
	Fast Rotorcraft (FRC)	193,39
Integrated Technology Demonstrator (ITD)	Airframe (AIR)	319,67
	Engines (ENG)	306,80
	Systems (SYS)	244,30
Technology Evaluator (TE)		13,34
Transverse Activity (TA)	Eco-Design (ECO)	6,06
	Small Air Transport (SAT)	3,00
Thematic topics		32,67
Total		1.719,23
Over commitment		-3,23

(State of play as of October 2021 – cfr CS2DP)

The aviation industry has been confronted to a very challenging situation over the past two years. The outbreak of the COVID-19 disease has severely impacted the big industrial players, their supplier chains and nearly all other entities in the sector.



Within this changing context, the progress of the Clean Sky 2 programme has inevitably been impacted by the COVID-19 situation. Although the vast majority of projects have continued, the implementation of the Clean Sky 2 programme has suffered a delay of approximately six months. It is worth noting that those delays will be recovered by the Programme end, except for 2 demonstrators postponed beyond 2023. The JU is closely monitoring the CS2 activities in order to avoid any further delays and trigger specific actions where necessary.

Implementation of CS2 programme commitment appropriations

At the end of 2021 the JU extended all GAMs to cover the activities of the Members during 2022 and 2023. In addition, last remaining pre-financings of GAPs from Call CfP11 were executed. Therefore, the 2021 GAM commitments represent the amounts committed for the extension of all the GAMs until 2023. The 2021 GAP commitments correspond to an amount of 1.5 M€ for a CfT (Call for Tender for a study on socio economic impact).

Year	Commitments for GAMs* (€)	Commitments for GAPs (€) & CfT	TOTAL (€)
2014	89.108.924,00	0,00	89.108.924,00
2015	125.889.176,00	153.456.861,53	279.346.037,53
2016	242.611.913,00	58.631.838,00	301.243.751,00
2017	140.624.226,07	156.562.020,00	297.186.246,07
2018	257.625.373,69	99.340.073,45	356.965.447,14
2019	211.570.640,17	77.398.453,61	288.969.093,78
2020	169.599.492,28	66.256.398,75	235.855.891,03
2021	155.697.483,06	1.484.250,00	157.181.733,06
Decommitments	-216.905.324,10	-72.957.644,00	-289.862.968,10
Total	1.175.821.904,17	540.172.251,34	1.715.994.155,51
Operational envelope			1.716.000.000
% of programme consumption			100,00%

(*) including all decommitments until 31.12.2021

Implementation of CS2 programme payment appropriations

The 2021 GAM payments correspond to the complementary pre-financing of some SPD activities in the GAMs 2020-2021 and the payments made to Leaders and Core Partners for their 2020 activities (interim payment of the GAMs 2020-2021).

The 2021 GAP payments represent the pre-financing paid to Partners selected in call CfP11 as well as interim / final payments for projects selected in previous calls.

Year	Payments for GAMs (€)	Payments for GAPs (€)	TOTAL (€)
2014	20.460.992,77	0,00	20.460.992,77
2015	58.285.612,45	11.052.718,27	69.338.330,72
2016	155.412.003,68	36.659.384,51	192.071.388,19
2017	123.204.969,20	69.846.786,33	193.051.755,53
2018	227.417.900,78	96.648.738,08	324.066.638,86
2019	216.549.217,32	99.782.173,70	316.331.391,02
2020	185.999.292,25	85.810.206,36	271.809.498,61
2021	45.037.867,74	54.042.671,20	99.080.538,94
Total	1.032.367.856,19	453.842.678,45	1.486.210.534,64
Operational envelope			1.716.000.000
% of programme paid			86,61%

Implementation of payment appropriations: schedule of payments

CS2 Schedule of payments	Year	Commitments (€)	Payments 2021 (€)	Payments 2022 (€)	Payments 2023 (€)	Payments 2024 (€)	Subseq. years
GAP	2014	0	0	0	0	0	0
	2015	1.382.983	685.375	697.608	0	0	0
	2016	6.933.692	3.613.163	3.320.528	0	0	0
	2017	6.703.122	2.939.742	3.763.380	0	0	0
	2018	23.219.819	9.097.940	9.287.927	4.833.951	0	0
	2019	50.200.856	24.394.136	12.550.214	10.040.171	3.216.335	0
	2020	48.576.560	12.748.376	23.896.093	4.145.719	7.786.372	0
	2021	3.355.214	563.939	1.484.250	980.159	326.866	0
TOTAL GAP		140.372.246	54.042.672	55.000.000	20.000.001	11.329.573	0
GAM	2014	0	0	0	0	0	0
	2015	0	0	0	0	0	0
	2016	0	0	0	0	0	0
	2017	0	0	0	0	0	0
	2018	0	0	0	0	0	0
	2019	30.081.757	19.077.537	11.004.220	0	0	0
	2020	45.883.264	25.960.331	19.922.933	0	0	0
	2021	155.697.482	0	98.989.428	8.482.069	48.225.985	0
TOTAL GAM		231.662.503	45.037.868	129.916.581	8.482.069	48.225.985	0
TOTAL CS2 Operational		372.034.749	99.080.539	184.916.581	28.482.070	59.555.558	0



The amount shown in the payments 2021 represents:

- Few remaining pre-financing payments (CfP11) and interim and final payments for Partners (CfP01 to CfP11);
- The complementary pre-financing of some SPD activities (GAMs 2020-2021);
- The payments covering the activities performed in 2020 by the Members (interim payments of the CS2 GAMs 2020-2023).

The amount shown in the payments 2022 represents:

- The interim and final payments for Partners (CfP01 to CfP11);
- The payments covering the activities performed in 2021 by the Members (interim payments of the CS2 GAMs 2020-2023).

The amount shown in the payments 2023 represents:

- The interim and final payments for Partners (CfP01 to CfP11);
- The payments covering the activities performed in 2022 by the Members (interim payments of the CS2 GAMs 2020-2023).

The amount shown in the payments 2024 represents:

- The final payments for Partners (CfP01 to CfP11);
- The payments covering the activities performed in 2023 by the Members (final payments of the CS2 GAMs 2020-2023).

5.5 Budget Evolution

On 18 December 2020 the CS2 Governing Board adopted the second amendment to budget 2020-2021 for a global amount of 70,4 million € in commitment appropriations and 89,3 million € in payment appropriations (*Initial Budget 2021*).

In April 2021, the GB adopted an amendment (*'3rd amendment to the 2020-2021 budget'*) to re-inscribe the carry-over related to the financial year 2020 (unused commitment and payment appropriations from closed GAMs and GAPS). This was used to cover the GAM 2020-2021 extension to years 2022 and 2023 as well as the payment credits needed for the carry forwarded administrative commitments.

In October 2021, a fourth budget amendment (*'4th amendment to the 2020-2021 budget'*) was adopted to further increase the available credits needed for the GAMs amendments to extend the period until 2023.

Lastly, few internal transfers (as decided by the Executive Director in accordance with the financial rules) were required to ensure an efficient resources allocation for the running costs and operational activities implementation.

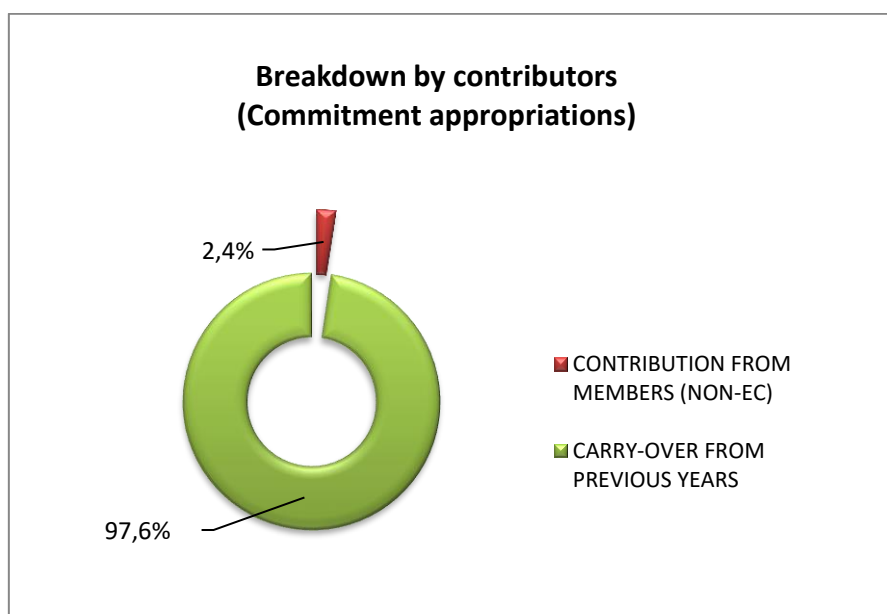
The final budget adopted by the Governing Board on 26 October 2021 for implementation amounted to 182,1 million € in commitment appropriations and 189,4 million € in payment appropriations.

Note: The JU budget is structured into chapters for each type of expenditure and no further budget breakdown is presented in these reports.

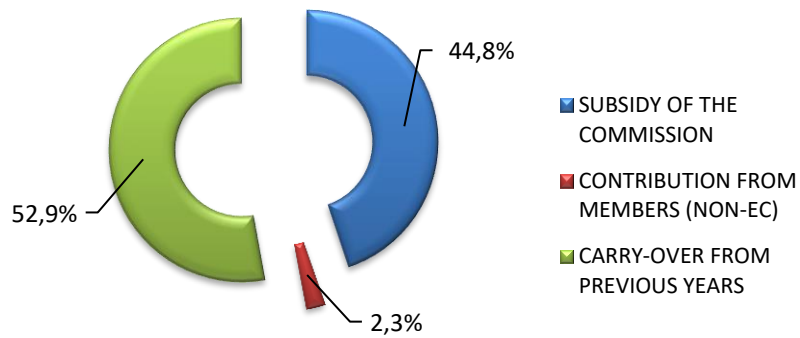
5.5.1 Evolution of Statement of Revenues (fund sources C1 and C2)

Heading of the Budget 2021		Initial Budget 2020 - 18/12/2020 Budget Amend n°2 (Annual Budget 2020-2021) (1)	Budget Amend n°3 29/04/2021 (Annual Budget 2020-2021) (2)	Budget Amend n°4 26/10/2021 (Annual Budget 2020-2021) (3)	Final Budget for implementation (4) = SUM (1 to 3)
100	SUBSIDY OF THE COMMISSION	0,00	0,00	0,00	0,00
200	CONTRIBUTION FROM MEMBERS (NON-EC)	4.333.484,00	0,00	0,00	4.333.484,00
300	CARRY-OVER FROM PREVIOUS YEARS	66.053.085,41	61.459.659,44	50.286.845,30	177.799.590,15
500	FINANCIAL REVENUES	0,00	0,00	0,00	0,00
TOTAL REVENUE (Commitments)		70.386.569,41	61.459.659,44	50.286.845,30	182.133.074,15

100	SUBSIDY OF THE COMMISSION	84.966.465,00	0,00	0,00	84.966.465,00
200	CONTRIBUTION FROM MEMBERS (NON-EC)	4.333.484,00	0,00	0,00	4.333.484,00
300	CARRY-OVER FROM PREVIOUS YEARS	0,00	92.748.779,59	7.397.727,84	100.146.507,43
500	FINANCIAL REVENUES	0,00	0,00	0,00	0,00
TOTAL REVENUE (Payments)		89.299.949,00	92.748.779,59	7.397.727,84	189.446.456,43



**Breakdown by contributors
(Payment appropriations)**



5.5.2 Evolution of Statement of Expenditures

Heading of the Budget 2021		Initial Budget 2020 18/12/2020 Budget Amend n°2 (Annual Budget 2020-2021) (1)	Budget Amend n°3 29/04/2021 (Annual Budget 2020-2021) (2)	Budget Amend n°4 26/10/2021 (Annual Budget 2020-2021) (3)	Transfers adopted by JU Director (4)	Final Budget to implement (5) = SUM (1 to 4)
CH 1	STAFF EXPENDITURE - COMMITMENTS					
CH 11	STAFF IN ACTIVE EMPLOYMENT	4.850.000	0	0	-130.000	4.720.000
CH 12	MISCELLANEOUS EXPENDITURE ON STAFF	100.000	0	0	70.000	170.000
CH 13	MISSIONS AND DUTY TRAVEL	200.000	0	0	-100.000	100.000
CH 14	SOCIOMEDICAL INFRASTRUCTURE	110.000	0	0	-45.000	65.000
CH 15	EXTERNAL STAFF SERVICES	450.000	0	0	205.000	655.000
CH 17	RECEPTIONS AND EVENTS	41.967	0	0	0	41.967
	TITLE 1 - Commitments	5.751.967	0	0	0	5.751.967
CH 1	STAFF EXPENDITURE - PAYMENTS					
CH 11	STAFF IN ACTIVE EMPLOYMENT	4.850.000	0	0	-130.000	4.720.000
CH 12	MISCELLANEOUS EXPENDITURE ON STAFF	100.000	83.375	0	70.000	253.375
CH 13	MISSIONS AND DUTY TRAVEL	200.000	31.469	0	-100.000	131.469
CH 14	SOCIOMEDICAL INFRASTRUCTURE	110.000	27.500	0	-45.000	92.500
CH 15	EXTERNAL STAFF SERVICES	450.000	239.349	0	205.000	894.349
CH 17	RECEPTIONS AND EVENTS	41.967	0	0	0	41.967
	TITLE 1 - Payments	5.751.967	381.693	0	0	6.133.659
CH 2	INFRASTRUCTURE EXPENDITURE - COMMITMENTS					
CH 20	RENTAL OF BUILDINGS AND ASSOCIATED COSTS	570.000	0	0	30.000	600.000
CH 21	INFORMATION TECHNOLOGY PURCHASES	350.000	0	0	150.000	500.000
CH 22	MOVABLE PROPERTY AND ASSOCIATED COSTS	10.000	0	0	0	10.000
CH 23	CURRENT EXPENDITURE FOR RUNNING COSTS	60.000	0	0	0	60.000
CH 24	POSTAGE AND TELECOMMUNICATIONS	50.000	0	0	0	50.000
CH 25	FORMAL AND OTHER MEETINGS	300.000	0	0	-170.000	130.000
CH 27	COMMUNICATION ACTIVITIES	760.000	0	0	150.380	910.380
CH 28	EXTERNAL SERVICES	815.000	0	0	-160.380	654.620
CH 29	COSTS ASSOCIATED WITH CALLS	0	0	0	0	0
	TITLE 2 - Commitments	2.915.000	0	0	0	2.915.000
CH 2	INFRASTRUCTURE EXPENDITURE - PAYMENTS					
CH 20	RENTAL OF BUILDINGS AND ASSOCIATED COSTS	570.000	11.313	0	30.000	611.313
CH 21	INFORMATION TECHNOLOGY PURCHASES	350.000	386.082	0	150.000	886.082
CH 22	MOVABLE PROPERTY AND ASSOCIATED COSTS	10.000	3.466	0	0	13.466
CH 23	CURRENT EXPENDITURE FOR RUNNING COSTS	60.000	38.319	0	0	98.319
CH 24	POSTAGE AND TELECOMMUNICATIONS	50.000	9.394	0	0	59.394
CH 25	FORMAL AND OTHER MEETINGS	300.000	29.429	0	-170.000	159.429
CH 27	COMMUNICATION ACTIVITIES	760.000	365.629	0	150.380	1.276.009
CH 28	EXTERNAL SERVICES	815.000	232.734	0	-160.380	887.354
CH 29	COSTS ASSOCIATED WITH CALLS	0	0	0	0	0
	TITLE 2 - Payments	2.915.000	1.076.364	0	0	3.991.364

Heading of the Budget 2021		Initial Budget 2020 18/12/2020 Budget Amend n°2 (Annual Budget 2020- 2021) (1)	Budget Amend n°3 29/04/2021 (Annual Budget 2020- 2021) (2)	Budget Amend n°4 26/10/2021 (Annual Budget 2020- 2021) (3)	Transfers adopted by JU Director (4)	Final Budget to implement (5) = SUM (1 to 4)
CH 4	CS2 OPERATIONAL EXPENDITURE - COMMITMENTS					
CH 40	LARGE PASSENGER AIRCRAFT	19.421.120	19.032.063	14.755.767	10.725.271	63.934.221
CH 41	REGIONAL AIRCRAFT	1.225.941	3.817.453	2.515.615	1.581.549	9.140.558
CH 42	FAST ROTORCRAFT	2.700.275	1.225.724	5.190.352	5.307.940	14.424.291
CH 43	AIRFRAME	7.533.126	6.557.858	9.113.991	-2.301.524	20.903.451
CH 44	ENGINES	5.092.462	6.987.783	9.417.192	2.708.188	24.205.625
CH 45	SYSTEMS	5.376.111	9.129.344	8.365.058	-6.271.423	16.599.090
CH 46	TECHNOLOGY EVALUATOR	793.656	291.795	1.052.338	535.090	2.672.879
CH 47	ECO-DESIGN TA	473.550	376.450	1.710.545	-1.424.369	1.136.176
CH 48	SMALL AIR TRANSPORT TA	262.817	786.771	294.907	-582.287	762.207
CH 49	CALLS FOR PROPOSALS	2.641.846	9.120.837	0	-10.278.433	1.484.250
	TITLE 4 - Commitments	45.520.903	57.326.078	52.415.765	0	155.262.747
CH 4	CS2 OPERATIONAL EXPENDITURE - PAYMENTS					
CH 40	LARGE PASSENGER AIRCRAFT	15.569.910	7.243.478	1.800.000	-2.000.000	22.613.388
CH 41	REGIONAL AIRCRAFT	3.146.772	1.307.124	-300.000	300.000	4.453.896
CH 42	FAST ROTORCRAFT	4.945.078	3.372.931	300.000	-300.000	8.318.009
CH 43	AIRFRAME	7.930.772	5.141.804	-1.000.000	1.000.000	13.072.576
CH 44	ENGINES	6.005.537	997.216	-800.000	800.000	7.002.753
CH 45	SYSTEMS	7.371.832	496.924	-500.000	500.000	7.868.756
CH 46	TECHNOLOGY EVALUATOR	297.073	25.644	0	0	322.717
CH 47	ECO-DESIGN TA	287.100	103.128	850.000	-850.000	390.228
CH 48	SMALL AIR TRANSPORT TA	231.494	17.900	0	200.000	449.394
CH 49	CALLS FOR PROPOSALS	34.847.413	20.152.586	-350.000	350.001	55.000.000
	TITLE 4 - Payments	80.632.981	38.858.736	0	0	119.491.717
CH5	UNUSED APPROPRIATIONS NOT REQUIRED IN CURRENT YEAR					
CH 50	TITLE 5 - Commitments	16.198.700	4.133.581	-2.128.920	0	18.203.360
CH 50	TITLE 5 - Payments	0	52.431.988	7.397.728	0	59.829.715
TOTAL BUDGET - Commitment appropriations		70.386.569	61.459.659	50.286.845	0	182.133.074
TOTAL BUDGET - Payment appropriations		89.299.948	92.748.780	7.397.728	0	189.446.455

5.6 Budget implementation

5.6.1 Statement of revenue

Type of revenue	Revenue budget	Entitlements established	Revenue received	Outstanding at the end of the year
EC contribution 2021	84.966.464,50	84.966.465,00	84.966.465,00	-
Non-EC Members' contribution for running costs 2021	4.333.484,00	4.333.484,00	3.417.008,32	916.475,68
Non-EC Members' contribution for running costs previous years	-	73.600,84	69.247,28	4.353,56
Recovery of overpaid pre-financing	-	25.294.767,99	22.689.006,67	2.605.761,32
Recovery of ex-post audit results	-	944.576,84	842.620,38	101.956,46
Miscellaneous admin recoveries	-	76.581,42	76.581,42	-
Re-entered cancelled appropriations from previous years	76.988.896,10	76.988.896,10	76.988.896,10	-
Total	166.288.844,60	192.678.372,19	189.049.825,17	3.628.547,02

EC contribution

This refers to the subsidy which the JU receives from the European Commission as part of the 1.755 million € foreseen in the Council Regulation. This is composed of the contribution for the annual operational payment needs and the running costs of the JU.

Non- EC Members' contribution to running costs 2021

In accordance with Article 15 (2) of the Statutes, the running costs of the JU shall be shared equally between the EC and the private Members and thus each year the JU sends out debit notes to its non-EC Members to receive their respective contributions.

The modalities and conditions applicable to the payment of the Members contribution to the running costs of the JU are set out in the CS2 Funding Agreement.

Recovery of overpaid pre-financing

In 2021 the closure of some 2018-2019 GAMs and a few GAPs resulted in the recovery of unused pre-financing.

Recovery of ex-post audit results

In 2021, the JU continued to close ex-post audits launched. A consequence of the audits is to recover the over-payments made to beneficiaries following the detection of errors during the ex-post audit exercise. If the payments are not received by the deadline of the debit note, the JU applies the offsetting according to its financial rules (with at least 2 opportunities each year namely with the pre-financing payments and interim payments for the GAMs). In 2021, the JU used the above opportunities several times to recover the over-payments.

Carry-over of cancelled appropriations from previous years

In accordance with Article 6 of the financial rules, the JU may carry over appropriations which have been cancelled for up to the 3 following financial years.

5.6.2 Statement of expenditure

5.6.2.1 Implementation of the statement of expenditure (fund sources C1 and C2)

Heading of the Budget 2021		Final Budget for implementation (1)	Final implementation (2)	% of implementation (3)=(2)/(1)	Final Budget for implementation (1)	Final implementation (2)	% of implementation (3)=(2)/(1)
CH 1	STAFF EXPENDITURE	COMMITMENTS			PAYMENTS		
CH 11	STAFF IN ACTIVE EMPLOYMENT	4.720.000,00	4.694.401,99	99,46%	4.720.000,00	4.694.401,99	99,46%
CH 12	MISCELLANEOUS EXPENDITURE ON STAFF	170.000,00	135.000,00	79,41%	253.374,79	120.559,77	47,58%
CH 13	MISSIONS AND DUTY TRAVEL	100.000,00	25.000,00	25,00%	131.468,93	11.845,71	9,01%
CH 14	SOCIOMEDICAL INFRASTRUCTURE	65.000,00	64.223,85	98,81%	92.499,65	41.642,77	45,02%
CH 15	EXTERNAL STAFF SERVICES	655.000,00	586.761,41	89,58%	894.348,53	549.356,06	61,43%
CH 17	RECEPTIONS AND EVENTS	41.967,00	27.545,00	65,63%	41.967,00	25.626,66	61,06%
TITLE 1 - Commitment and Payment		5.751.967,00	5.532.932,25	96,19%	6.133.658,90	5.443.432,96	88,75%
CH 2	INFRASTRUCTURE EXPENDITURE	COMMITMENTS			PAYMENTS		
CH 20	RENTAL OF BUILDINGS AND ASSOCIATED COSTS	600.000,00	600.000,00	100,00%	611.312,70	586.807,65	95,99%
CH 21	INFORMATION TECHNOLOGY PURCHASES	500.000,00	451.965,86	90,39%	886.081,78	491.553,68	55,47%
CH 22	MOVABLE PROPERTY AND ASSOCIATED COSTS	10.000,00	0,00	0,00%	13.465,81	3.465,81	25,74%
CH 23	CURRENT EXPENDITURE FOR RUNNING COSTS	60.000,00	60.000,00	100,00%	98.319,00	8.361,38	8,50%
CH 24	POSTAGE AND TELECOMMUNICATIONS	50.000,00	35.000,00	70,00%	59.393,53	22.604,71	38,06%
CH 25	EXPENDITURE ON FORMAL AND OTHER MEETINGS	130.000,00	62.302,74	47,93%	159.429,12	26.096,85	16,37%
CH 27	COMMUNICATION ACTIVITIES	910.380,00	857.485,00	94,19%	1.276.008,69	513.613,24	40,25%
CH 28	EXTERNAL SERVICES	654.620,00	426.738,31	65,19%	887.353,61	471.250,39	53,11%
CH 29	COSTS ASSOCIATED WITH CALLS	0,00	0,00	-	0,00	0,00	-
TITLE 2 - Commitment and Payment		2.915.000,00	2.493.491,91	85,54%	3.991.364,24	2.123.753,71	53,21%
Total TITLE 1 & 2 - Commitment and Payment		8.666.967,00	8.026.424,16	92,61%	10.125.023,14	7.567.186,67	74,74%

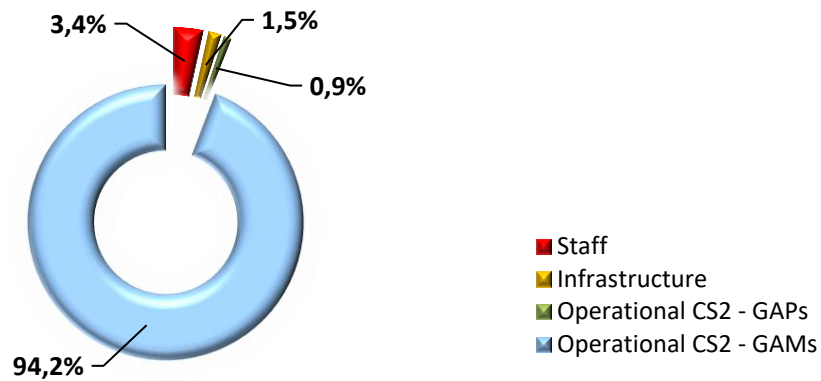


Heading of the Budget 2021		Final Budget for implementation (1)	Final implementation (2)	% of implementation (3)=(2)/(1)
CH 4	CS2 OPERATIONAL EXPENDITURE	COMMITMENTS		
CH 40	LARGE PASSANGER AIRCRAFT	63.934.220,52	63.934.220,52	100,00%
CH 41	REGIONAL ARCRAFT	9.140.558,00	9.140.558,00	100,00%
CH 42	FAST ROTORCRAFT	14.424.291,15	14.424.291,15	100,00%
CH 43	AIRFRAME	20.903.451,34	20.903.451,34	100,00%
CH 44	ENGINES	24.205.624,70	24.205.624,70	100,00%
CH 45	SYSTEMS	16.599.089,52	16.599.089,52	100,00%
CH 46	TECHNOLOGY EVALUATOR	2.672.878,80	2.672.878,80	100,00%
CH 47	ECO-DESIGN TA	1.136.175,76	1.136.175,76	100,00%
CH 48	SMALL AIR TRANSPORT TA	762.207,27	762.207,27	100,00%
CH 49	CALLS FOR PROPOSALS	1.484.250,00	1.484.250,00	100,00%
TITLE 4 - Commitment and Payment		155.262.747,06	155.262.747,06	100,00%
CH5	UNUSED APPROPRIATIONS NOT REQUIRED IN CURRENT YEAR	COMMITMENTS		
CH 50	TITLE 5 - Commitment and Payment	18.203.360,00	0,00	0,00%
TOTAL BUDGET - Commitment and Payment		182.133.074,06	163.289.171,22	89,65%
TOTAL BUDGET excluding TITLE 5		163.929.714,06	163.289.171,22	99,61%

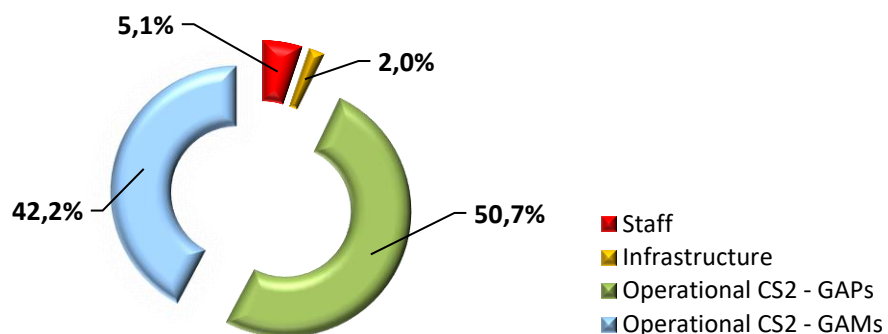
Final Budget for implementation (1)	Final implementation (2)	% of implementation (3)=(2)/(1)
PAYMENTS		
22.613.387,85	16.003.215,85	70,77%
4.453.896,21	3.124.335,02	70,15%
8.318.009,26	6.159.294,31	74,05%
13.072.575,56	9.599.833,61	73,43%
7.002.752,58	4.274.362,51	61,04%
7.868.756,30	4.802.926,95	61,04%
322.717,31	295.470,37	91,56%
390.228,29	357.281,25	91,56%
449.393,59	421.147,87	93,71%
55.000.000,00	54.042.671,20	98,26%
119.491.716,95	99.080.538,94	82,92%
PAYMENTS		
59.829.715,00	0,00	0,00%
189.446.455,09	106.647.725,61	56,29%
129.616.740,09	106.647.725,61	82,28%

Budget title	COMMITMENTS			PAYMENTS		
	Expenditure	% implem.	% budget	Expenditure	% implem.	% budget
1 - Staff	5.532.932,25	96,19%	3,39%	5.443.432,96	88,75%	5,10%
2 - Infrastructure	2.493.491,91	85,54%	1,53%	2.123.753,71	53,21%	1,99%
4 - Operational CS2 - GAP	1.484.250,00	100,00%	0,91%	54.042.671,20	98,26%	50,67%
4 - Operational CS2 - GAM	153.778.497,06	100,00%	94,18%	45.037.867,74	69,84%	42,23%
Total budget (*excluding title 5)	163.289.171,22	99,61%	100,00%	106.647.725,61	82,28%	100,00%

Breakdown by type of expenditure
(Commitments)



Breakdown by type of expenditure
(Payments)



Main highlights of the 2021 budget execution

The 2021 budget execution has been impacted by the COVID-19 pandemic situation, in particular for what concerns payment appropriations for the administrative expenditure.

As shown in the introductory chapter of this report, the JU has had a 99,6% rate⁹ of implementation for the commitment appropriations in 2021. The payment appropriations were executed to 82,3% of the available funds¹⁰.

For a comparison, in 2020 the JU executed its commitment appropriations with a rate of 97,4% of the available funds and with 88,1% of payment appropriations. The JU has thus maintained a very good performance in commitment appropriations, which have increased 2,2% with respect to 2020 execution. However, payment appropriations show a decrease of 5,8% with respect to the previous year mainly due to the negative impact of Covid-19 as detailed below.

Titles 1 & 2 – Administrative expenditure

For commitments, the execution rate was 92,6%, slightly above 91,99% in 2020. For payments, the rate achieved reached 74,7% in 2021 showing some improvement compared to 68,5% in 2020 (mainly in Title 2). The under-execution is mostly due to activities not performed (e.g. face to face meetings and trainings, physical events and travel missions cancelled due to Covid-19 restrictions), services delivered but not invoiced yet (e.g. invoices for services rendered in December) and frontloading for 2022 activities (e.g. booking of exhibition stands for 2022 events).

Staff expenditure budget (Chapter 11) was used for the statutory staff of the JU (42 posts filled in as of 31.12.2021), although other external support was also hired in by the JU to cope with the increased workload (Chapter 15). The other main budget items are allocated to IT expenditures (Chapter 21) and communication activities (Chapter 27).

Title 4 – Operational expenditure

The execution rate for commitment appropriations consumption reached 100% in 2021 (97,6% in 2020) while for payment appropriations reached 82,9% (compared to 88,7% in 2020) with 69,8% for GAMs and 98,2% for GAPs respectively. This is explained by the delays in implementing the technical activities for the following main reasons:

- the under execution in the GAMs 2020-2021 (-17% budget, ~-19,5 million €);
- the slow-down of activities in the GAPs due to COVID-19 pandemic leading to a high number of requests for extension (>80% of a total of 148 amendments processed in 2021) resulting in a lower level of costs submitted.

The above payment execution rates resulted in 22,9 million € of unused funds in 2021 (compared to 16,2 million € in 2020).

⁹ This rate is calculated excluding Title 5 which was foreseen not to be used in 2021 although within the overall budget available commitment appropriations of the year.

¹⁰ Excluding the unused appropriations 2021 of 22,9 million € (56,3% of execution rate if the unused appropriations are included as total payment budget).



5.6.2.2 Implementation of the statement of expenditure (fund sources C4)

Heading of the Budget 2021		Final Budget for implementation (1)	Final implementation (2)	% of implementation (3)=(2)/(1)
CH 1	STAFF EXPENDITURE	COMMITMENTS		
CH 12	MISCELLANEOUS EXPENDITURE ON STAFF	24.171,80	0,00	0,00%
CH 13	MISSIONS AND DUTY TRAVEL	0,00	0,00	-
CH 17	RECEPTIONS AND EVENTS	0,00	0,00	-
TITLE 1 - Commitment and Payment		24.171,80	0,00	0,00%
CH 2	INFRASTRUCTURE EXPENDITURE	COMMITMENTS		
CH 20	CS2 RENT OF BUILDING	16.510,40	0,00	0,00%
CH 21	INFORMATION TECHNOLOGY PURCHASES	36,36	0,00	0,00%
CH 24	POSTAGE AND TELECOMMUNICATIONS	4.531,66	0,00	0,00%
CH 27	COMMUNICATION ACTIVITIES	31.331,20	0,00	0,00%
TITLE 2 - Commitment and Payment		52.409,62	0,00	0,00%
Total TITLE 1 & 2- Commitment and Payment		76.581,42	0,00	0,00%

Final Budget for implementation (1)	Final implementation (2)	% of implementation (3)=(2)/(1)
PAYMENTS		
24.171,80	0,00	0,00%
0,00	0,00	-
0,00	0,00	-
24.171,80	0,00	0,00%
PAYMENTS		
16.510,40	0,00	0,00%
36,36	0,00	0,00%
4.531,66	0,00	0,00%
31.331,20	0,00	0,00%
52.409,62	0,00	0,00%
76.581,42	0,00	0,00%

Heading of the Budget 2021		Final Budget for implementation (1)	Final implementation (2)	% of implementation (3)=(2)/(1)
CH 4	CS2 OPERATIONAL EXPENDITURE	COMMITMENTS		
CH 40	LARGE PASSENGER AIRCRAFT	141.350,96	0,00	0,00%
CH 41	REGIONAL ARCRAFT	2.504,05	0,00	0,00%
CH 42	FAST ROTORCRAFT	89.170,52	0,00	0,00%
CH 43	AIRFRAME	15.189,79	0,00	0,00%
CH 44	ENGINES	897,09	0,00	0,00%
CH 45	SYSTEMS	7.708,01	0,00	0,00%
CH 46	TECHNOLOGY EVALUATOR	0,00	0,00	-
CH 47	ECO-DESIGN TA	0,00	0,00	-
CH 48	SMALL AIR TRANSPORT TA	0,00	0,00	-
CH 49	CALLS FOR PROPOSALS	117.196,30	0,00	0,00%
TITLE 4 - Commitment and Payment		374.016,72	0,00	0,00%

CH5	UNUSED APPROPRIATIONS NOT REQUIRED IN CURRENT YEAR	COMMITMENTS		
CH 50	TITLE 5 - Commitment and Payment	0,00	0,00	-

TOTAL BUDGET - Commitment and Payment		450.598,14	0,00	0,00%
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Final Budget for implementation (1)	Final implementation (2)	% of implementation (3)=(2)/(1)
PAYMENTS		
141.350,96	0,00	0,00%
2.504,05	0,00	0,00%
89.170,52	0,00	0,00%
15.189,79	0,00	0,00%
897,09	0,00	0,00%
7.708,01	0,00	0,00%
0,00	0,00	-
0,00	0,00	-
0,00	0,00	-
117.196,30	0,00	0,00%
374.016,72	0,00	0,00%

PAYMENTS		
0,00	0,00	-

450.598,14	0,00	0,00%
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This table shows a combination of two main factors for the funds which can be re-entered in the JU budget. First due to the aforementioned recovery of ex-post audit corrections, secondly due to the recovery of the overpaid pre-financing as a result of under execution. The JU also recovered miscellaneous small administrative expenses. The amounts entered on this funds source present the situation as 'cashed' by the JU at year end and will be incorporated into the 2021 JU budget as part of the re-entered appropriations.

5.6.2.3 Implementation of the statement of expenditure (fund sources C8)

Heading of the Budget 2021		Final Budget for implementation (1)	Final implementation (2)	% of implementation (3)=(2)/(1)
CH 1	STAFF EXPENDITURE	COMMITMENTS		
CH 11	STAFF IN ACTIVE EMPLOYMENT	0,00	0,00	-
CH 12	MISCELLANEOUS EXPENDITURE ON STAFF	83.374,79	5.878,57	7,05%
CH 13	MISSIONS AND DUTY TRAVEL	31.468,93	0,00	0,00%
CH 14	SOCIOMEDICAL INFRASTRUCTURE	27.499,65	23.003,65	83,65%
CH15	EXTERNAL STAFF SERVICES	239.348,53	195.796,17	81,80%
CH 17	RECEPTIONS AND EVENTS	0,00	0,00	-
TITLE 1 - Commitment		381.691,90	224.678,39	58,86%
CH 2	INFRASTRUCTURE EXPENDITURE	COMMITMENTS		
CH 20	RENTAL OF BUILDINGS AND ASSOCIATED COSTS	11.312,70	0,00	0,00%
CH 21	INFORMATION TECHNOLOGY PURCHASES	386.081,78	365.478,70	94,66%
CH 22	MOVABLE PROPERTY AND ASSOCIATED COSTS	3.465,81	3.465,81	1
CH 23	CURRENT EXPENDITURE FOR RUNNING COSTS	38.319,00	2.463,53	6,43%
CH 24	POSTAGE AND TELECOMMUNICATIONS	9.393,53	1.067,75	11,37%
CH 25	EXPENDITURE ON FORMAL AND OTHER MEETINGS	29.429,12	205,65	0,70%
CH 27	COMMUNICATION ACTIVITIES	365.628,69	265.320,92	72,57%
CH 28	EXTERNAL SERVICES	1.034.633,61	1.025.368,69	99,10%
CH 29	COSTS ASSOCIATED WITH CALLS	0,00	0,00	-
TITLE 2 - Commitment		1.878.264,24	1.663.371,05	88,56%
Total TITLE 1 & 2- Commitment		2.259.956,14	1.888.049,44	83,54%
CH 4	CS2 OPERATIONAL EXPENDITURE	COMMITMENTS		
CH 40	LARGE PASSANGER AIRCRAFT	26.772.030,24	26.772.030,24	100,00%
CH 41	REGIONAL ARCRAFT	5.307.225,03	5.307.225,03	100,00%
CH 42	FAST ROTORCRAFT	9.641.136,21	9.641.136,21	100,00%
CH 43	AIRFRAME	15.140.229,68	15.140.229,68	100,00%
CH 44	ENGINES	8.648.698,60	8.648.698,60	100,00%
CH 45	SYSTEMS	9.705.853,89	9.705.853,89	100,00%
CH 46	TECHNOLOGY EVALUATOR	542.450,62	542.450,62	100,00%
CH 47	ECO-DESIGN TA	645.468,75	645.468,75	100,00%
CH 48	SMALL AIR TRANSPORT TA	1.480.913,81	1.480.913,81	100,00%
CH 49	CALLS FOR PROPOSALS	139.187.423,78	138.887.994,56	99,78%
TITLE 4 - Commitment		217.071.430,61	216.772.001,39	99,86%
TOTAL BUDGET - Commitment		219.331.386,75	218.660.050,83	99,69%

The C8 funds source shows the open commitments in the JU for previously committed for administrative expenditure and for grant agreements to beneficiaries. The remaining commitment appropriations are needed to meet expected future payments for the administrative expenditure, for the interim and final reports of the projects. Once the projects are closed, these funds can be de-committed and converted to C2 funds source for re-use up to the following 3 financial years (Art. 6 of CS 2 JU Financial rules).

5.7 Evolution of commitments outstanding

This tables show the evolution of past and current outstanding commitments (RAL: *Reste à liquider*).

Outstanding commitments from previous years				
Title	Initial amount outstanding from previous year(s)	Amounts paid	Amounts cancelled	Final Amount from previous year(s)
Title 1	381.691,90	219.975,39	157.013,51	4.703,00
Title 2	1.878.264,24	748.398,90	214.893,19	914.972,15
Title 4	259.960.548,07	99.080.538,94	43.188.546,68	117.691.462,45
TOTAL	262.220.504,21	100.048.913,23	43.560.453,38	118.611.137,60

Current outstanding commitments				
Title	Initial amount from the current financial year	Amounts paid	Amounts cancelled	Amount of commitments outstanding from the current financial year
Title 1	5.881.031,50	5.223.457,57	348.099,25	309.474,68
Title 2	2.746.215,24	1.375.354,81	252.723,33	1.118.137,10
Title 4	233.973.668,62	-	78.710.921,56	155.262.747,06
TOTAL	242.600.915,36	6.598.812,38	79.311.744,14	156.690.358,84

***RAL TOTAL at the end of the financial year* 275.301.496,44**

6 INDEX OF ABBREVIATIONS

ABAC	Accrual Based Accounting
ABP	Annual Budget Plan
AIR	ITD Airframe
BOA	Budgetary Outturn Account
BS	Balance Sheets
CA	Commitment Appropriations
CfP	Call for Proposals
CfT	Call for Tender
CP	Core Partner
CAJU	Clean Aviation Joint Undertaking
CSJU	Clean Sky 2 Joint Undertaking
EC	European Commission
ECO TA	Eco Design Transverse Activity
EEA	European Economic Area
ENG	ITD Engines
EOA	Economic Outturn Account
EU	European Union
FA	Fixed Assets
FP7	7th Framework Programme for Research and Technological Development
FRC	IADP Fast rotorcraft
GAM	Grant Agreement for Members
GAP	Grant Agreement for Partners
GB	Governing Board
GMT2	Grant Management Tool for grant agreements with members
H2020	Horizon 2020 EU Framework Programme for Research and Innovation



HE	Horizon Europe funding programme for research and innovation
IAPD	Innovative Aircraft Demonstrator Platform
IKAA	In-kind contribution from additional activities
IKC	In kind contributions
IKOP	In-kind contribution from operational activities
ITD	Integrative Technology Demonstrator
JU	Joint Undertaking
LPA	IADP Large passenger aircraft
PA	Payment Appropriations
REG	IADP Regional aircraft
SAT	Small Air Transport Transverse Activity
SPD	System & Platform Demonstrator
SYS	ITD Systems
TA	Transversal Activity
TE	ITD Technology Evaluator



7 FOUNDING AND ASSOCIATED MEMBERS TO THE CLEAN AVIATION JU

Founding Members

1. Aciturri Aeronáutica S.L.U.
2. Aernnova Aerospace SAU
3. Airbus SAS
4. Centro Italiano Ricerche Aerospaziali SCPA (CIRA)
5. Collins Aerospace Ireland, Ltd
6. Dassault Aviation SA
7. Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)
8. Fraunhofer-Gesellschaft zur Förderung der Angewandten Forschung e.V.
9. Fokker Technologies Holding BV
10. GE Avio S.r.l.
11. GKN Aerospace, Sweden AB
12. Honeywell International s.r.o.
13. Industria de Turbo Propulsores S.A.U.
14. Leonardo SpA
15. Liebherr-Aerospace & Transportation SAS
16. Lufthansa Technik AG
17. Łukasiewicz Research Network – Institute of Aviation (ILOT)
18. MTU Aero Engines AG
19. National Institute for Aerospace Research (INCAS)
20. Office National d'Etudes et de Recherches Aéropatiales (ONERA)
21. Piaggio Aero Industries
22. Pipistrel Vertical Solutions d.o.o.
23. Rolls-Royce Deutschland Ltd & Co KG
24. Safran
25. Stichting Koninklijk Nederlands Lucht - en Ruimtevaartcentrum (Royal NLR)
26. Thales AVS France SAS
27. University of Patras

Associated Members

1. Costruzioni Aeronautiche Tecnam S.p.A
2. Delft University of Technology
3. Fundación TECNALIA Research & Innovation
4. Hellenic Aerospace Industry S.A.
5. Israel Aerospace Industries Ltd. (IAI)
6. Norwegian University of Science and Technology (NTNU)
7. Politecnico di Torino
8. Siemens Industry Software NV
9. SINTEF AS and SINTEF Energy Research
10. Solvay S.A.
11. Technische Universitaet Braunschweig
12. University of Stuttgart



8 CERTIFICATE OF THE ACCOUNTING OFFICER

The Final Accounts of the Clean Aviation Joint Undertaking for the year 2021 have been prepared in accordance with the Chapter 8 of the Financial Rules¹¹ of the Clean Aviation Joint Undertaking, the accounting rules adopted by the Commission's Accounting Officer and the accounting principles and methods adopted by myself.

I acknowledge my responsibility for the preparation and presentation of the annual accounts of the Clean Aviation Joint Undertaking in accordance with Article 25 of the Financial Rules of the Clean Aviation Joint Undertaking.

I have obtained from the authorising officer, who certified its reliability, all the information necessary for the production of the accounts that show the Clean Aviation Joint Undertaking's assets and liabilities and the budgetary implementation.

I hereby certify that based on this information, and on such checks as I deemed necessary to sign off the accounts, I have a reasonable assurance that the accounts present fairly, in all material aspects, the financial position, the results of the operations and the cash-flow of the Clean Aviation Joint Undertaking except for the following reservations:

My assurance statement related to the Final Accounts 2021 will be transmitted to the Accounting Officer of the Commission. The Management Representation Letter, signed by the Authorising Officer and myself, will be sent to the European Court of Auditors for the audit of the Final Accounts.

Andrea Tóth
Accounting Officer

¹¹ Governing Board decision ref. CS-GB-Writ proc. 2019-07, adopted on 27 January 2020; re-adopted on 16 December 2021 by the CAJU Governing Board under the “omnibus” Decision CAJU-GB-2021-12-16