



EUROPEAN
COURT
OF AUDITORS

Summary of results from the ECA's 2016 annual audit of the European research Joint Undertakings

CONTENTS

| | Paragraph |
|--|-----------|
| Introduction | 1 - 6 |
| Background information | 1 - 2 |
| Research Joint Undertakings – public-private partnerships of the EU with Industry and Member States | 3 - 4 |
| Research Joint Undertakings' EU budgets | 5 - 6 |
| Audit approach | 7 - 10 |
| Current audit arrangement is working but inefficient | 7 - 10 |
| Audit results | 11 - 34 |
| Clean audit opinions on the reliability of the accounts for all Joint Undertakings | 11 |
| Clean audit opinions on the legality and regularity of the transactions underlying the accounts for seven out of eight Joint Undertakings | 12 - 13 |
| We draw attention to the risks related to the EU contribution to the ITER project costs | 14 - 19 |
| Comments made in our specific reports | 20 - 33 |
| Budgetary and financial management | 21 |
| Closing phase of the FP7 programme showed some backlog of contributions from industry and research partners | 22 - 24 |
| Starting phase of the Horizon 2020 programme showed a high level of contribution from industry partners for additional activities | 25 - 26 |
| Internal controls were generally effective and kept the error rates below 2 % | 27 - 33 |
| Follow-up of previous years' comments | 34 |
| Conclusions | 35 - 38 |
| Annex – Joint Undertakings' activities, budget and staff | |

INTRODUCTION

Background information

1. We audited and issued opinions on the reliability of the accounts and on the legality and regularity of the underlying transactions for the financial year ended 31 December 2016 for eight European research Joint Undertakings:

- F4E (ITER) – Development of Fusion Energy;
- BBI – Bio-based Industries;
- Clean Sky – Clean Air Transport Technologies;
- IMI – Innovative Medicines Initiative;
- FCH – Fuel Cells and Hydrogen;
- SESAR – Single European Sky Air Traffic Management Research;
- ECSEL – Electronic components and Systems;
- S2R - Shift2Rail Innovative Rail Product Solutions.

2. This summary report provides an overview of the audit results (opinions and comments) published in our 2016 specific annual reports on the Joint Undertakings. This summary is not an audit report or opinion.

Research Joint Undertakings – public-private partnerships of the EU with Industry and Member States

3. Joint Undertakings are public-private partnerships, which play an important role in implementing specific aspects of European Union (EU) research policy. Apart from the EU, which is represented by the Commission, members of the Joint Undertakings include various public and private partners from industry and research groupings. Most Joint Undertakings follow a bipartite model with the participation of the Commission and industry/research partners, or a tripartite model also including the participation the Member States (ECSEL Joint Undertaking).

4. The members make contributions to the funding of the Joint Undertakings' activities. The EU funding is provided by the EU research budget through the Seventh Research Framework Programme (FP7) and Horizon 2020¹. The industry and research partners provide in-kind and cash contributions. In the case of four Joint Undertakings (Clean Sky, FCH, BBI and S2R), the private partners also provide a minimum amount of in-kind contributions to 'additional activities' which are outside the Joint Undertakings' work programmes but fall within the scope of the Joint Undertakings' objectives.

Research Joint Undertakings' EU budgets

5. The total budget of the Joint Undertakings in 2016 was 1,8 billion euro (2015: 1,4 billion euro) or 1,3 % (2015: 1 %) of the EU general budget. The total in-kind and cash contributions from industry and research partners were expected to be of a similar amount. The Joint Undertakings employed 633 staff at the end of 2016 (2015: 562).

6. Information on the Joint Undertakings' activities, budget and staff numbers is shown in the **Annex**.

AUDIT APPROACH

Current audit arrangement is working but inefficient

7. In line with Articles 208 (4) and 209 (2) of the EU financial regulation, the audit of the reliability of the accounts of all Joint Undertakings has been outsourced to independent external audit firms. The reliability of the annual accounts of the F4E and SESAR Joint Undertakings has been verified by independent external audit firms since 2014. For the remaining Joint Undertakings (Clean Sky, BBI, FCH, IMI, ECSEL, S2R), the audit of the reliability of the annual accounts was performed by external audit firms for the first time in 2016.

¹ The SESAR and S2R Joint Undertakings also receive funding from the Trans-European Networks Transport programme (TEN-T).

8. In accordance with international auditing standards, we reviewed the work of the audit firms and obtained sufficient assurance that we could rely on their work in formulating our audit opinions on the reliability of the Joint Undertakings' 2016 annual accounts.

9. As in prior years, we remain exclusively responsible for the audit of the legality and regularity of the underlying transactions. Our audit approach comprised substantive testing of representative samples of payment and revenue transactions, analytical review procedures, and an assessment of key controls of each Joint Undertakings' supervisory and internal control systems. We also reviewed the quality of the ex-post audits of declared costs carried out by the contracted independent external audit firms at beneficiaries of FP7 grants. We obtained sufficient assurance to rely on the work of the audit firms as a complementary basis for our audit opinions on the legality and regularity of payments.

10. The 2016 audit showed, however, that the outsourcing of the reliability of accounts part of the audit significantly increased administrative burden and caused overlaps of audit works.

AUDIT RESULTS

Clean audit opinions on the reliability of the accounts for all Joint Undertakings

11. The final accounts of all eight Joint Undertakings present fairly, in all material respects, their financial position as at 31 December 2016 and the results of their operations and their cash flows for the year then ended, in accordance with the provisions of the applicable Financial Regulations and the accounting rules adopted by the Commission's Accounting Officer.

Clean audit opinions on the legality and regularity of the transactions underlying the accounts for seven out of eight Joint Undertakings

12. The transactions underlying the annual accounts for the year ended 31 December 2016 were legal and regular in all material respects for seven Joint Undertakings (F4E, BBI, Clean Sky, IMI, FCH, SESAR and S2R).

13. As in 2015, we issued a qualified opinion on the legality and regularity of the transactions underlying the accounts of the ECSEL Joint Undertaking. The arrangements in place at the ECSEL Joint Undertaking for ex-post audits at beneficiaries of FP7 grants do not allow the calculation of a reliable weighted error rate or a residual error rate for its FP7 payments. Therefore, we were not in a position to conclude whether the ex-post audits provide sufficient assurance as to the legality and regularity of the underlying interim and final payments for FP7 projects managed by the Joint Undertaking. This issue is linked to the control system which the ECSEL Joint Undertaking inherited from its predecessors (the ENIAC and ARTEMIS Joint Undertakings) and will no longer be relevant for the implementation of Horizon 2020 projects.

We draw attention to the risks related to the EU contribution to the ITER project costs

14. Our audit opinions on the annual accounts of the F4E Joint Undertaking are accompanied by an emphasis of matter² related to the EU contribution to the ITER project costs.

15. In November 2016, the ITER Council endorsed a new schedule and cost estimate for the ITER project, setting December 2025 as the deadline for achieving the first strategic milestone of the construction phase ('First Plasma') and December 2035 as the estimated completion date for the whole construction phase, which is a delay of 15 years compared to the original planning.

16. Based on the new project baseline, the F4E Joint Undertaking recalculated the related cost at completion for the construction phase of the ITER project. The results were presented to the Joint Undertaking's Governing Board in December 2016 and estimated the additional EU funding requirement for the construction phase after 2020 at around 5,4 billion euro (82 % increase on the previously approved 6,6 billion euro).

² An emphasis of matter is used to draw attention to a matter which is not materially misstated in the accounts, but is of such importance that it is fundamental to the users' understanding of the accounts.

17. Moreover, the F4E Joint Undertaking must also contribute to the ITER operational phase after 2035 and to the subsequent deactivation and decommissioning phases. These costs are not yet estimated.

18. In June 2017, the Commission issued a communication on the EU contribution to the ITER project, seeking the support of the European Parliament and a mandate from the Council of the EU for the Commission to approve the new baseline. The Commission has suggested that a contingency of up to 24 months in terms of schedule and 10-20 % in terms of budget would be appropriate. The 6,6 billion euro adopted by the EU Council in 2010 now serves as a ceiling for the JU's spending up to 2020.

19. We consider that, while positive steps have been taken to improve the management and control of the ITER project construction phase, there remains a risk of further cost increases and delays in project implementation.

Comments made in our specific reports

20. Without calling our opinions into question, we made various comments in our specific annual reports on the Joint Undertakings, in order to highlight matters of importance and indicate areas for improvement.

Budgetary and financial management

21. In four cases (Clean Sky, IMI, FCH, SESAR), the **implementation rate for payment appropriations in 2016** was significantly lower than expected, due to delays in concluding grant agreements (Clean Sky, IMI), fewer than expected grant agreements following the evaluation of the calls for proposals (FCH), or beneficiaries' delays in implementing the projects and/or presenting their cost statements (SESAR). For IMI, the low rate of budget implementation was also linked to a significant reduction in spending on the emergency EBOLA+ programme when the epidemic receded.

Closing phase of the FP7 programme showed some backlog of contributions from industry and research partners

22. We reported on the Joint Undertakings' multi-annual budgetary implementation of the FP7, TEN-T and Horizon 2020 programmes.

23. For **FP7**, at the end of 2016, the total contributions (in-kind and cash) from industry and research partners were expected to be of a similar amount as the EU cash contributions. However, for all Joint Undertakings the private partners contributed slightly less than the EU. For the IMI Joint Undertaking, however, the backlog of contributions from industry amounted to about 220 million euro (equivalent to 30 % of the EU cash contribution).

24. **Horizon 2020** was still in its preliminary phase in 2016, and the EU cash contribution was used to pre-finance the first wave of grant agreements with the industry partners and other beneficiaries. This explains the rather low level of in-kind contributions declared by industry partners at the end of 2016.

Starting phase of the Horizon 2020 programme showed a high level of contribution from industry partners for additional activities

25. In some cases, industry and research partners may also declare **in-kind contributions for additional activities** which are outside the Joint Undertakings' work programmes (Clean Sky, BBI, S2R, FCH). At the end of 2016, the partners had already declared a significant portion of the minimum amounts defined in the respective Joint Undertakings' founding regulations for the whole Horizon 2020 period (BBI: 17 %; Clean Sky: 36 %; S2R: 43 %; FCH: 66 %). The Joint Undertakings are not required to disclose the in-kind contributions for additional activities in their annual accounts and we have no mandate to audit the amounts declared.

26. Further information on multiannual budgetary implementation may be found in the Joint Undertakings' annual activity reports.

Internal controls were generally effective and kept the error rates below 2 %

27. The Joint Undertakings have set up **ex-ante control procedures** based on financial and operational desk reviews, and contracted independent external audit firms to perform **ex-**

post audits at beneficiaries. These checks are key tools for assessing the legality and regularity of the underlying payment transactions, including the cash and in-kind contributions from industry and research members.

28. Based on the ex-post audit results for FP7 grant payments, at the end of 2016, all the Joint Undertakings (except ECSEL) calculated and reported residual error rates below 2 %. This was confirmed by our reviews of the work of the external audit firms.

29. For Horizon 2020 grant payments, no ex-post audits were completed by the end of 2016. Therefore, our opinion on the legality and regularity of Horizon 2020 payments was based solely on the results of our substantive testing and analysis of the Joint Undertakings' internal control systems. For all Joint Undertakings, the error rate was below the materiality threshold of 2 % of the final budget.

30. At the end of 2016, two Joint Undertakings (Clean Sky and IMI) had only partly completed the **integration of their Horizon 2020 control systems** with the Commission's common Horizon 2020 grant management and monitoring tools.

31. During 2016, two Joint Undertakings (SESAR and S2R) awarded Horizon 2020 grants to project consortia despite the fact that the **checks of the financial viability of the beneficiaries** performed by the Research Executive Agency indicated a weak financial capacity of the coordinating industry members of the consortia.

32. The system in place at the Clean Sky Joint Undertaking for **the monitoring and clearing of Horizon 2020 pre-financing** permitted an accumulation of around 176 million euro of outstanding pre-financing, increasing the exposure of the Joint Undertaking to financial risk.

33. Concerning their procedures for the **procurement of services**, two Joint Undertakings (SESAR and S2R) set maximum contract budgets. However, these maximum amounts were not based on a systematic cost estimation process or a reasonable market price reference system. As practice showed that most bids received are close to the maximum budget, this does not ensure the cost-effectiveness of their multi-annual service contracts.

Follow-up of previous years' comments

34. In most cases, the Joint Undertakings took corrective action in **follow-up to previous years' comments** made in our earlier specific annual reports. Details can be found in the annexes to our reports.

CONCLUSIONS

35. We issued unqualified opinions on the reliability of the accounts for the financial year ended 31 December 2016 for all of the Joint Undertakings.

36. We issued unqualified opinions on the legality and regularity of the underlying transactions for the financial year ended 31 December 2016 for seven of the eight Joint Undertakings. We issued a qualified opinion on the legality and regularity of the underlying transactions for the ECSEL Joint Undertaking as no reasonable assurance could be obtained on the reliability of its internal controls for FP7 grant payments.

37. We made comments on issues related to budgetary implementation and management, internal control systems and procurement procedures which, however, did not affect our opinions.

38. In relation to the F4E Joint Undertaking, we noted that positive steps have been taken to improve the management and control of the ITER project construction phase, but there remains a risk of further cost increases and delays in project implementation.

Annex

| Joint Undertakings' activities, budget and staff | | | | | | | |
|---|------------------|--------------------|---|------------------------------------|-------------|----------------------|----------------------|
| JOINT UNDERTAKING | | | | Final Budget (million euro) | | Staff numbers | |
| | Parent DG | Policy Area | Area of Activity | 2015 | 2016 | At 31.12.2015 | At 31.12.2016 |
| BBi | DG RTD | Research | Bio-based products and biofuels | 21,1 | 66 | 13 | 20 |
| CLEAN SKY | DG RTD | Research | Aeronautical technologies | 245,9 | 287,8 | 36 | 41 |
| ECSEL | DG CONNECT | Research | Electronic components and systems | 161,5 | 244,1 | 28 | 29 |
| F4E - FUSION FOR ENERGY | DG ENER | Research | Nuclear fusion | 586 | 720 | 383 | 415 |
| FCH - FUEL CELLS AND HYDROGEN | DG RTD | Research | Fuel cells and hydrogen technologies | 95,1 | 98,3 | 26 | 26 |
| IMI - INNOVATIVE MEDICINES INITIATIVE | DG RTD | Research | Development of and access to innovative medicines | 195,4 | 209,3 | 35 | 41 |
| SESAR | DG MOVE | Research | Air traffic management | 136,9 | 157,1 | 41 | 44 |
| S2R- SHIFT2RAIL | DG MOVE | Research | Railway sector | - | 51,4 | - | 17 |
| Total | | | | 1441,9 | 1834 | 562 | 633 |