Overview of projects proposed for adoption by the STOA Panel for the rest of the 8th legislative period

I. Summary by priority areas

Priority area 1: Eco-efficient transport and modern energy solutions

(i) **Battery technology,** workshop
(ii) **E-fuels for the decarbonisation of the transport system,** long-term study
(iii) **Building-Integrated Photovoltaics,** workshop

Priority area 2: Sustainable management of natural resources

(i) **Alternative options for plant protection**, long-term-study
(ii) **Technologies for sustainable development,** long-term study

Priority area 3: Potentials and challenges of the Information Society

(i) **How to win elections**, workshop (European Science-Media Hub)
(ii) **Social acceptability of disruptive technologies**, workshop
(iii) **Tech-assisted refereeing technologies in sports**, workshop
(iv) **Reconversion of former industrial areas**, workshop
(v) **Technological responses to the advent of fake news**, short-term study (European Science-Media Hub)
(vi) **Technology and polarisation in society**, short-term study
(vii) **Rethinking education in the digital age**, short-term study
(viii) **Workplace monitoring and surveillance in the digital era**, long-term study (Scientific Foresight)
(ix) **Preservation and dissemination of intangible cultural heritage**, long-term study

Priority area 4: Health and new technologies in the life sciences

(i) **Health effects from electromagnetic radiation**, workshop
(ii) **Innovative solutions from research into health care**, short-term study

Priority area 5: Science policy, communication & global networking

(i) **New type of defence/security technologies for countering hybrid threats,** long-term study (Scientific Foresight)
(ii) **EIT's role in strengthening innovation,** workshop
(iii) **Internationalisation of EU research organisations,** short-term study
(iv) **Technology and the arts**, short-term study

II. Summary table by type of project

Workshops

(i) Battery technology (CK)
(ii) How to win elections (PB/European Science-Media Hub)
(iii) Social acceptability of disruptive technologies (PB)
(iv) Tech-assisted refereeing technologies in sports (MK)
(v) EITs role in strengthening innovation (CK)
(vi) Reconversion of former industrial areas (NK)
(vii) Building-Integrated Photovoltaics (CK)
(viii) Health effects from electromagnetic radiation (CK)

Short-term studies

(i) Technological responses to the advent of fake news (MK/European Science-Media Hub)
(ii) Technology and polarisation in society (PB)
(iii) Innovative solutions from research into health care (GLQ)
(iv) Technology and the arts (PB)
(v) Rethinking education in the digital age (NK)
(vi) Internationalisation of the EU research organisations, short-term study (GLQ)

Long-term studies

(i) E-fuels for the decarbonisation of the transport system (CK)
(ii) Technologies for sustainable development (GLQ)
(iii) Alternative options for plant protection (NK)
(iv) Preservation and dissemination of intangible cultural heritage (GLQ)
(v) Workplace monitoring and surveillance in the digital era (MK/Scientific Foresight)
(vi) New type of defence/security technologies for countering hybrid threats (ZP/Scientific Foresight)

III. Description of the projects proposed for adoption

Priority area 1: Eco-efficient transport and modern energy solutions

Tentative title: **Battery technology**

Short description: Battery technology is a key enabling technology for both e-mobility and renewable electricity production, but Europe lacks a coherent industrial strategy in this sector. A **workshop** here should look into available options or alternatives, such as e-fuels. The results of this workshop should help launch a longer-term study on e-fuels (see separate proposal).
Proposals incorporated: 'European batteries for European cars' (Miapetra KUMPULA-NATRI, MEP), 'Technological overview of the latest technological and practical solutions for a greater use of solar energy in clean transport' and 'Assessment of technical, market, business & political impediments of e-mobility adoption in the EU' (Marijana PETIR, MEP), 'Technology options for clean and energy efficient road transport vehicles' (PETI Committee).
Lead Panel Member: Marijana PETIR (t.b.c.)
Administrator responsible: CK

Tentative title: **E-fuels for the decarbonisation of the transport system**

Short description: E-fuels are an interesting alternative to batteries for the storage of electric energy for the transport sector. A **long-term study** should shed light into the technological opportunities as well as industrial strategies to promote their wider introduction.
Proposals incorporated: 'E-Fuels – the final solution for the decarbonisation of our transport system' (TRAN Committee), 'Green Hydrogen' (Jens GEIER, MEP).
Lead Panel Member: Marijana PETIR / Christian EHLER (t.b.c.)
Administrator responsible: CK

Tentative title: **Building-Integrated Photovoltaics (BIPV)**

Short description: Integrating PV cells into construction material used for houses, offices or transport infrastructures can be a more cost efficient alternative to conventional PV modules. A **workshop** should draw attention to the emergent BIPV markets and address the main technological and regulatory challenges.
Proposals incorporated 'Innovative Building-Integrated Photovoltaic (BIPV) technologies and products: Solutions for a smart decarbonization of the European building stock' (Marijana PETIR, MEP), 'Solar-Roads - The road of the 21st century?' (TRAN Committee).
Lead Panel Member: Marijana PETIR (t.b.c.)
Administrator responsible: CK

Priority area 2: Sustainable management of natural resources

Tentative title: **Technologies for sustainable development**

Short description: New technologies can play a key role in paving the way for sustainable development in developing countries, reducing the impact of development on climate goals, as well as making development more resilient to future climate change. A **long-term study** should focus among others on agricultural practices, creation of workplaces, and demographical aspects.
Proposals incorporated: 'The long term effects of the new technologies in renewable energy and climate change adaptation applied in Africa in accordance with the EU's sustainable development goals' (György HÖLVÉNYI, MEP).
Lead Panel Member: (t.b.d.)
Administrator responsible: GLQ

Tentative title: **Alternative options for plant protection**

Short description: This **long-term study** would look into options for alternative plant protection products and techniques. The study would also consider economic, environmental and societal effects of those currently widely used, as well as the alternative ones.
Proposals incorporated: 'What if there were no plant protection products used in food production' (Mairead McGUINESS, MEP).
Lead Panel Member: (t.b.d.)
Administrator responsible: NK

Priority area 3: Potentials and challenges of the Information Society

Tentative title: **How to win elections**

Short description: This **workshop** would explore how science and technology - including big data, psychological profiling and targeted campaigns - are deployed to influence the results of elections. The topic is likely to be of increasing interest to the parliamentary community in the run-up to the next EU elections and would be timed in late 2018 to maximise its relevance and attractiveness. The event could be linked to the European Science-Media Hub.
Proposals incorporated: 'How to win elections' (Maria Teresa GIMENEZ BARBAT, MEP).
Lead Panel Member: Teresa GIMENEZ BARBAT.
Administrator responsible: PB

Tentative title: **Social acceptability of disruptive technologies**

Short description: This **workshop** would explore disruptive technologies and, in particular, how we can understand the dynamics of public opposition, and what we can do to improve the social acceptability of new technologies. It could be linked to the next edition of STOA's '10 technologies that could change our lives' report, and could serve as a launch event.
Proposals incorporated: 'Social acceptance of technological game-changers' (Jens GEIER, MEP).
Lead Panel Member: (t.b.d.)
Administrator responsible: PB

Tentative title: **Tech-assisted refereeing technologies in sports**
Short description: The gradual introduction of VARs (video-assisted refereeing) will assist referees and make their decisions reviewable, but it might also interrupt the flow of the game raising questions about the rules of operation, criteria, accuracy and effectiveness of these technological systems/methods and whether this particular technology will bring forward more benefits than problems and the role of the human in making decisions. A **workshop** around the time of the World Cup 2018 should focus on the problems, challenges and potential of these technologies that are gradually being introduced in various European jurisdictions.
Proposals incorporated: 'Tech-assisted refereeing and adjudication technologies' (Theodoros ZAGORAKIS, MEP)
Lead Panel Member: (t.b.d.)
Administrator responsible: MK

Tentative title: **Reconversion of former industrial areas**

Short description: The **workshop** would explore options for the reconversion of industrial areas, especially those declining, into innovative and eco-friendly zones. The workshop could focus on the environmental and social challenges related to (declining) industrial areas, financial challenges related to their revitalisation, and the role research and innovation can play to help realising their potentials.
Proposals incorporated: 'RENEWALS-REconversion for NEW models of Alternative Local Systems (Rosa D'AMATO, MEP).
Lead Panel Member: (t.b.d.)
Administrator responsible: NK

Tentative title: **Technological responses to the advent of fake news and their effects upon freedom of speech and media pluralism**

Short description: New technological systems/methods are currently under development designed to tackle the negative influence of fake news. At the same time, these innovations may have an effect upon the freedom of speech, pluralism and democracy. A **short-term study** should focus on the role and operation of automated content recognition technologies and the opportunities for European Union as a whole to take the lead in setting the framework for designing these technologies in a way that enhances accountability and transparency and respects free speech. The study could be linked to the European Science-Media Hub.
Proposals incorporated: 'Is there a technological response to the advent of "fake news"?' (CULT Committee/Maria Teresa GIMINEZ BARBAT); Algorithms and automatic content recognition: what impact on freedom of expression and media pluralism? (CULT Committee/Isabella ADINOLFI, MEP); Sacrificing freedom of speech to tackle fake news? (CULT Committee/Stelios KOULOGLOU, MEP).
Lead Panel Member: (t.b.d.)
Administrator responsible: MK

Tentative title: **Technology and polarisation in society**

Short description: This **short term study** would review how the use of technologies - including the internet and social media, big data, and targeted campaigns - may be leading to a more polarised society. Special attention would be paid to phenomena such as 'filter bubbles' and contemporary movements that are anti-establishment and/or pro-autonomy. The project should also explore positive effects of the same technologies on social engagement and integration.
Proposals incorporated: 'Informational automation and political polarization' (Teresa GIMENEZ BARBAT, MEP).
Lead Panel Member: Teresa GIMENEZ BARBAT.
Administrator responsible: PB

Tentative title: **Rethinking education in the digital age**,

Short description: This **short-term study** would cover the following aspects: adapting the educational process to include new technologies; teaching core subjects, which maybe new subjects (e.g. coding and other digital skills, creativity); innovative ways of education and training for jobs of the future and life-long learning; gender gaps in digitalisation.
Proposals incorporated: 'Teaching core subjects in the digital age'(CULT Committee, Maria Teresa GIMÉNEZ BARBAT, MEP), 'Innovative ways of education and training programmes as a response to new forms of business and employment' (EMPL Committee), 'Digitalisation' (FEMM Committee).
Lead Panel Member: (t.b.d.)
Administrator responsible: NK

Tentantive title: **Workplace monitoring and surveillance in the digital era**

Short description: The introduction of new technologies in the workplace for monitoring and surveillance purposes raises questions about their impacts upon workers' dignity, privacy and data protection. A **long-term scientific foresight study** should focus on analysing the potential of these technologies for discrimination, privacy breaches and vulnerability to manipulation, as well as the need to reflect on the need for introducing ethical and legal safeguards.
Proposals incorporated: 'Workplace Monitoring and Surveillance in the digital era and its implications for workers privacy and data protection'(EMPL Committee).
Lead Panel Member: (t.b.d.)
Administrator responsible: MK

Tentative title: **Preservation and dissemination of intangible cultural heritage**

Short description: Intangible cultural heritage includes traditions or living expressions inherited from our ancestors and passed on to our descendants. A **long-term study** would, among others: 1) analyse what new technologies allow in the area of preservation and dissemination of intangible cultural heritage, and which technologies are available for this (digital platforms and other things); 2) determine if the current European legal framework allows the development of user-friendly and secure digital tools in the field of intangible cultural heritage.
Proposals incorporated: 'Preservation and dissemination of intangible cultural heritage: digital platforms and smart city environments' (CULT Committee / Isabella ADINOLFI, MEP).
Lead Panel Member: (t.b.d.)
Administrator responsible: GLQ

Priority area 4: Health and new technologies in the life sciences

Tentative title: **Innovative solutions from research into health care.**

Short description: Clinical research protocols continue to be written for treatment-seeking patients matching the eligibility criteria. In a time when precision medicine that targets sub-group patients, this has become inefficient. The system should be inverted with patients first having full documentation of their diseases and then being proposed matching treatment protocol. New solutions are needed for optimal benchmarking of emerging technologies across and within classes of agents. The proposed **short-term study** would be an opportunity to clarify the practical challenges of developing such new precision medicine strategies.
Proposals incorporated: 'Innovative solutions from research into health care' (Patrizia TOIA, MEP).
Lead Panel Member: (t.b.d.)
Administrator responsible: GLQ

Priority area 5: Science policy, communication & global networking

Tentative title: **New type of defence/security technologies for countering hybrid threats**

Short description: This **long-term scientific foresight study** could build on the recent in-depth STOA studies on cybersecurity and ICT industry. The study could equally incorporate elements of the proposals on battlefield technologies and genetically engineered bioweapons. The study would consider security, economic, environmental and societal effects of these technologies. It could also be expanded toward ethics and arms-control considerations.
Proposals incorporated: 'Strategic communications as a key factor in countering hybrid threats', 'Technologies shaping the 2040 battlefields' and 'Genetically engineered bioweapons' (all submitted by AFET Committee/SEDE Subcommittee).
Lead Panel Member: (t.b.d.)
Administrator responsible: ZP

Tentative title: **Internationalisation of EU research organisations**

Short description: Strong evidence shows that the best research and technology centres are those with a strong level of international cooperation. The **short-term study** could be an opportunity to analyse: 1) motivation and advantages behind the need to internationalise research; 2) the barriers and costs faced by European research organisations in their international activities; 3) the challenges met by the EC in the internationalisation of EU research programmes; 4) the strategies adopted by the major EU research institutions to internationalise their activities.
Proposals incorporated: 'Improving internationalisation of the EU research organisations' (Patrizia TOIA, MEP).
Lead Panel Member: Christian EHLER.
Administrator responsible: GLQ

Tentative title: **Technology and the arts**

Short description: This **short-term study** will review the mutual benefits between technology and the arts, and explore options for fostering this relationship. The project can be developed in dialogue with the STARTS initiative, with a view towards a possible collaborative follow-up event.
Proposals incorporated: 'Arts and sustainable management of natural resources in the face of anthropogenic climate change' (Julie WARD, MEP).
Lead Panel Member: (t.b.d.)
Administrator responsible: PB

Tentative title: **EITs role in strengthening innovation,** workshop (CK)

Short description: This **workshop** will look at the possible role of EIT in fostering synergies between FP9 and ESI Funds
Proposals incorporated: 'The role of the EIT in strengthening innovation in Europe's regions by capitalising on the synergies between FP9 and ESI Funds' (Lambert van Nistelrooij, MEP).
Lead Panel Member: (t.b.d.)
Administrator responsible: CK

IV. Proposals not retained and action recommended

Priority area 1: Eco-efficient transport and modern energy solutions

None.

Priority area 2: Sustainable management of natural resources

Title: **Emissions reduction in emission-intensive industries - looking into opportunities of CCU**

Proposed by: Jens GEIER, MEP.
Comment: EASAC published a report on negative emission technologies in February 2018, covering a range of technologies and describing their implications for EU policy. They held an event about this report with EPRS on 8 March 2018 in Brussels. There are also several lifecycle analyses of CCU technology (see a review of them by Cuéllar-Franca and Azapagic: Carbon capture, storage and utilisation technologies: A critical analysis and comparison of their life cycle environmental impacts).
Action proposed: Given this existing work that is available, and the recent event, we do not recommend going ahead with a study at this time. MEP advised about the event in February (PB).

Title: **Tackling climate change - what is the role for Negative Emission Technologies?**

Proposed by: Max ANDERSSON, Bas EICKHOUT, Jakop DALUNDE, MEPs.
Comment: EASAC has published a report on negative emission technologies in February 2018, covering a range of technologies and describing their implications for EU policy. Furthermore, EASAC held an event about this report with EPRS on 8 March 2018 in Brussels, where the scientists involved presented and discussed the key messages of their report.
Action proposed: Do not retain the proposal due to potential duplication, as there is a recent in-depth study covering the subject. A link to the study could be sent to the proposing MEPs (ZP).

Priority area 3: Potentials and challenges of the Information Society

Title: **Models of governance, management, and sustainable fiscal and financial management of cultural heritage**

Proposed by: Silvia COSTA, MEP.
Comment: This rather general request aims to analyse new models of governance, management, and sustainable fiscal and financial management of cultural heritage. The proposal does not appear aligned with the STOA Rules.
Action proposed: The study could be better accommodated by the Policy Departments (GLQ).

Title: **Technological change in the delivery of audiovisual content: towards a fit-for-purpose regulatory environment**

Proposed by: CULT Committee/Curzio MALTESE, MEP.
Comment: The proposal would analyse the possibility of levelling the playing field for broadcasters and content producers to use both new and traditional technologies to compete, protect, distribute and invest in cultural content, whilst protecting vulnerable viewers and consumers. The proposal is only partially aligned with the STOA Rules. It has a technological content, but it is mostly related to regulatory, not scientific issues.
Action proposed: The proposal has limited scientific content and it is more oriented to regulatory aspects applied to technologies and media. It appears outside of the scope of the STOA priorities. The study could be better accommodated by the Policy Departments (GLQ).

Title: **New technological options to reduce the fragmentation of the European cybersecurity market and mitigate dependencies on cyber-security products form external sources**

Proposed by: SEDE Subcommittee.
Comment: A TA study on new technological options to reduce the fragmentation of the European cyber security market and mitigate dependencies on cyber-security products form external sources.
Action proposed: Do not retain the proposal to avoid duplication. Although the subject is very topical and interesting, the recent STOA study 'Achieving a sovereign and trustworthy ICT industry in the EU' analyses in-depth this topic. Study sent to SEDE Secretariat (ZsP).

Title: '**Forbidden Stories': An example of an initiative to tackle the challenge of the freedom of the media using new technologies**.

Proposed by: CULT Committee.
Comment: Very important topic, however rather limited technological focus.
Action proposed: The project 'Forbidden Stories' could be presented in the EP through a different channel or in a different format (CK).

Priority area 4: Health and new technologies in the life sciences

Title: "**Non GMO" voluntary labelling in the European Union: status report, technical issues and potential for innovation**

Proposed by: Michele RIVASI, MEP.
Comment: Weak technological focus; topic covered by a recent EC study ('State of play in the EU on GM-free food labelling schemes and assessment of the need for possible harmonisation', EC, 2013).
Action proposed: Send EC study to proposer to see if there is need for an additional study (MK).

Priority area 5: Science policy, communication & global networking

Title: '**Social impact measurement and public return on public funded R&D'**

Proposed by: Soledad CABEZÓN RUIZ, MEP.
Comment: The proposal is related to an existing STOA project 'Measuring scientific performance for improved policy making' and would require a long-term study which would go beyond the current legislative period.
Action proposed: Revisit the proposal in the next legislative period, if there is sufficient interest (PB).

Title: **Evolution of women's movements worldwide**

Proposed by: FEMM Committee.
Comment: The proposal does not have a techno-scientific dimension and is not aligned with any of the five STOA priority areas.
Action proposed: Do not retain the proposal. Another EP service, such as the FEMM sector in Policy Department C, could potentially carry out the study (NK).

Title: **How to prepare European society and workers to cooperate with robots and artificial intelligence instead of being replaced. How to manage artificial intelligence in a responsible way?**

Proposed by: EMPL Committee.
Comment: Topic covered by two recent studies of STOA (on the ethical aspects of cyber physical systems and on the effects of digitisation upon employment and social economy)
Action proposed: Send both studies to proposer to see if there is need for an additional study (MK).

V. Summary table by administrator

(i) Battery technology, workshop (CK)
(ii) E-fuels for the decarbonisation of our transport system, long-term study (CK)
(iii) Building-Integrated Photovoltaics (BIPV), workshop (CK)
(iv) EITs role in strengthening innovation with synergies between FP9 and ESIF funds, workshop (CK)
(v) Health effects from electromagnetic radiation, workshop (CK)

(i) Technologies for sustainable development, long-term study (GLQ)
(ii) Preservation and dissemination of intangible cultural heritage, long-term study (GLQ)
(iii) Innovative solutions from research into health care, short-term study (GLQ)
(iv) Internationalisation of the EU research organisations, short-term study (GLQ)

(i) Tech-assisted refereeing technologies in sports, workshop (MK)
(ii) Fake news, short-term study (MK)
(iii) Workplace Monitoring and Surveillance in the digital era, long-term study (MK)

(i) Alternative options for plant protection (NK)
(ii) Reconversion of former industrial areas, workshop (NK)
(iii) Rethinking education in the digital age (NK)

(i) How to win elections, workshop (PB)
(ii) Social acceptability of disruptive technologies, workshop (PB)
(iii) Technology and polarisation in society, short-term study (PB)
(iv) Technology and the arts, short-term study (PB)

(i) Countering hybrid threats, long-term study (ZP)