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**Next Generation EU Program**

Paper with proposals for the  
*Next Generation EU Program*  
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## Next Generation EU Program

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Converting the EU-Recovery Funds and EU-Budget into **value for Europe and future generations** of Europeans is the aspiration of the EU Commission and Parliament. This paper aims to support this intention by showing the **wide range of valuable hi-tech investment options**, from which commission and parliament could choose. At the end, 10 political action were added which would support the realization of such a Next Generation EU Program.

A few key criteria were drivers for this selection of EU initiatives:

- Overall, the initiatives were chosen with five EU goals in mind
  - **To generate values for future generations**
  - **To generate valuable jobs now and later**
  - **To support the EU climate initiative**
  - **To strengthen economic ties between EU countries by modern EU infrastructures**
  - **To keep EU at par with USA and China technologically and economically**
- The list is meant to **feed concrete ideas into the EU discussions**. It is not comprehensive of all possible investment opportunities, nor should it be taken as an obligatory set.
- The **economic sectors** have been chosen to allow easy matching of suggestions with existing EU and country priorities. Some projects appear in more than one sector context.
- The initiatives in each sector were **sequenced according to impact/realizability** to help estimate the job creation horizon. Impact/Realizability: S - short term, M - medium term, L - long term.

### EU Communication, Internet, IT-Structures - CI

1. S EU-wide 5G-network built by EU-suppliers and mobile connectivity along all EU state roads
2. S EU optical fiber networks to all metropolitan areas, later to be extended to every village
3. S Completing Galileo GPS system and promoting Galileo applications and services
4. S EU-wide mobile payment services for more than half of the population
5. S EU cyber-security Initiative
6. S EU Trusted Identity Provider for every EU citizen to replace chaos of login procedures
7. M Gaia X Euro-Cloud for science & industry and 5-10 more international EU internet nodes
8. L EU supercomputer centers serving clusters of EU countries, incl. quantum computers

### EU Transportation and Traffic Systems - TS

1. S 15 Cross-EU- highspeed railway lines, e.g. Lisbon-Helsinki, Amsterdam-Bucharest, Stockholm-Catania, Nantes-Paris-Prague, Grand Continental Ring....
2. S European Train Control System (ETCS) for every EU rail network
3. S EU-network of electrical charging stations
4. S EU-network of hydrogen filling stations for trucks
5. S Replace all diesel locomotives by hydrogen fuel-cell powered ones
6. S EU traffic control/telematic systems for all EU freeways and in all metropolitan areas

7. S Reform and reconstruction of harbors in Mediterranean, Atlantic- und Northern coasts
8. M European Hi-Tech Cargo rail network with Hitech Cargo Terminals
9. L EU-network for autonomous truck driving or platooning on EU interstate freeways
10. L Lanes for autonomous cars on EU interstate freeways
11. L Hi-Speed Maglev shuttles between several neighboring airports in 5-10 EU metropolitan areas

#### **EU Energy Networks, Production and Storage - EN**

1. S European high-voltage-direct-current (HVDC) electricity transmission network
2. S All EU electricity networks upgraded to intelligent up- and down-load and storage capability for user-producers
3. S Replacing conventional city- and street-lighting by low energy lighting
4. S Smart grids for city quarters in all large EU cities
5. M AI-controlled drone network-supervision /diagnostic for electricity/pipeline networks
6. L Support of hydrogen economy incl. electrolyzer stations, storage, EU pipeline network
7. L Support for several EU „blue hydrogen” generation with CCS pilot projects
8. L Support for ITER hydrogen fusion program and accelerated planning for several fusion Demo power stations

#### **Common EU Security Technology Initiatives - ST**

1. S Modernizing and EU-wide roll-out of secure digital communication/control systems for police/fire-brigades/disaster relief forces
2. S Improving EU defense systems against cyber-attacks of critical infrastructures
3. S Accelerate building EU border security forces with hi-tech equipment
4. S Support development of EU technologies to defend civilians against terrorist attacks in EU and EU neighborhood
5. S Building a hi-tech equipped EU disaster relief force to support EU countries/EU neighbors in natural disasters
6. M Developing and operating EU military satellites and space defense systems
7. M Introducing hardened EU digitized communication and battlefield control systems
8. M Standardizing/modernizing land, sea and air defense systems across all EU countries

#### **Hi-Tech in Government and Communal Administration - GA**

1. S EU Initiative for digitized city administrations and digital citizen services
2. S EU support for IT- Reskilling/Training/Recruiting-Programs in the public sector
3. S EU-Cyber-security initiative for all government, city and communal administrations
4. S EU Initiative for digital construction planning and commissioning processes

5. S EU Initiative for drone applications for fire brigades/forest-fire fighting and detection in all EU forest fire countries.
6. S Drone support for security forces and missing person search
7. L Automated postal delivery services

#### **EU Green and Livable Cities – GC**

1. S Smart grids for city quarters in all EU cities
2. S Replacing conventional city- and street-lighting by low energy lighting
3. S EU traffic control/telematic systems in all metropolitan areas
4. S Green cities electricity networks upgraded to intelligent up- and down-load and storage capability for user-producers
5. S EU Initiative for digitized city administrations and digital citizen services
6. S Local autonomous CO2-free city shuttles on fixed routes or on demand in suburbs
7. S EU Initiative for digital construction planning and commissioning processes
8. S Modernizing metro subways with driverless subway systems
9. M EU initiative for AI-supported urban planning for green, livable “15-minutes” cities
10. M Silent magnetic levitation trains serving suburbia settlements

#### **EU Hi-Tech in Medical and Healthcare Applications - MH**

1. S Creating an EU disease control center with EU data networking and AI support
2. S Network of EU tele-medical centers
3. S Support for AI applications in healthcare (with clinics as well as general practitioners)
4. S EU-wide digital cancer diagnostic/therapeutic network, incl. AI -supported cancer centers
5. M Networking of EU healthcare data systems and health Apps

#### **Hi-Tech Industry Applications - IA**

1. S Industrial 5G- und IOT-networks in Logistics and manufacturing
2. S Cross-EU digitalization of logistics and supply-chain networks
3. S EU battery recycling centers, plastic recycling centers, car recycling industries for EU county clusters
4. M 3D-Printing/Additive Manufacturing in Industries for cross-EU distribution of spare-parts coupled with design software innovations
5. M EU-Apps for Artificial Intelligence applications in each industrial sector
6. M Cross-EU Virtual Reality applications and tele-diagnostics in industrial services
7. L EU support for hydrogen use as raw material or energy carrier in EU industries, e.g. chemical or steel industry

8. L Shift EU chemical industries to CO2-free production, e.g. biofiber to replace plastic products
9. L Turn 10 EU metropolitan areas into zero-CO2 footprint car centers (incl. production)

#### **IT in Digital Schools, Universities and Research - SU**

1. S EU-wide IT-training for teachers and lecturers
2. S EU-wide best practice exchange and implementation of IT schooling concepts for pre-schools and ground-schools
3. S Support Hi-Tech-Mix of physical/online teaching and learning at high-schools and universities
4. S Expanding Engineering Schools in all EU universities
5. S Recreate EU Institute of Technology made of 100 Excellence Engineering Schools of EU universities
6. S Strengthen EU Research programs which support the EU Hi-Tech initiatives
7. M Build a European Online University for Engineering Degrees, in-particular in IT

#### **Aerospace - AS**

1. S EU support of CO2-reduced (-free) aircraft developments
  2. S Expand Galileo satellite services and foster Galileo applications in all economic sectors
  3. S Drone surveyance of high voltage lines, pipelines, wind parks
  4. M Streamlining EU flight corridors and modernizing EU flight control system and airports
  5. L EU satellite programs and space robot programs
  6. L Networking neighboring airports by magnetic levitation shuttles in EU metropole regions
- ML Autonomous air taxi link pilot projects at 5-10 EU airports/city centers**

#### **Hi-Tech Buildings and Construction Industry - BC**

1. S Industrializing/digitizing construction industry in all EU countries, incl BIM (Building Information Management Systems)
2. S Support for construction in CO2 neutral raw materials
3. M Support drone application in surveying, mapping, and monitoring of construction sites
4. L EU initiative to develop highly automated construction of prefabricated buildings and autonomous construction machines, support of 3D printing in buildings

#### **Hi-Tech Agricultural Industries - AG**

1. S Agro-Apps providing satellite information via Galileo and other satellites
2. S Supporting use of CO2-free tractors and agro machinery

3. S Drone application for fertilizing and plant protection
4. S Robot-supported reforestation of land available or freed by reduced agriculture
5. M EU initiative for bio-degradable products/production to replace plastics
6. M Autonomous agricultural machines combined with AI support for large EU farms
7. L Shift to use of degradable bioproducts for industries, e.g. car industry

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#### **Political Actions to Support EU Recovery Initiative**

1. Developing institutions and processes to enforce the application of EU funds to long-lasting productive projects
2. EU initiative to reduce planning cycles for infrastructure projects
3. Reducing employment obstacles in regulation and structures in all EU countries
4. Expanded EU competence for integrated EU energy policy and CO2 reduction policy
5. Create European infrastructure enterprises for rail networks, optical fiber, cargo-rail, airlines, pipeline networks, electricity networks and supporting EU cross-border mergers of companies in network sectors and critical technology sectors
6. Extracting European high-speed rail magistral lines from national monopolies
7. Common financial/capital markets for industrial bonds, IPOs, Venture Capital, Business Angels, banking services
8. Mobilize industrial and private investment through refocused tax laws fostering venture capital and EU pension funds
9. Completing liberalized common market regulations for all logistics/cargo-transportation services and opening EU service markets for architects, planning firms, notaries, industry lawyers, pension fund management etc.
10. Use all legal means to avoid funds for Southern EU flowing back into asset purchases in safe-haven Northern EU countries – a capital exodus which would increase TARGET2 balances of Northern EU (this could include adapting US-type rules for TARGET2)
11. Use all legal means to make the Southern European countries competitive again within EU and internationally, including sabbaticals from the Euro (and devaluations) as a last resort

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