

Germany's Recovery and Resilience Plan (RRP): Business opportunities

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The EU Recovery and Resilience Facility (RRF)

- The Facility is a temporary recovery instrument.
- It allows the Commission to raise funds to help Member States implement reforms and investments that are in line with the EU's priorities.
- It makes available **€723.8 billion** (in current prices) in loans (€385.8 billion) and grants (€338 billion) for that purpose.
- Member States receive the funding by putting together a National Recovery and Resilience Plan.

The German Recovery and Resilience Plan (RRP)

Recovery and Resilience Facility (RRF): €25.6 billion

RRF grants: 100 %



○ Share of total EU RRF
3.5 %

○ Share of national GDP
0.7 %

Investment timeline



Germany receives ~€25 billion for reforms and investments

Major objectives

Green transition: €10.9 billion 42.6 %



RRF target: 37 %

Digital transformation: €13.5 billion 52.7 %



RRF target: 20 %

Objectives and structure of the German RRP

Figure 1 – Breakdown of funding by mission





1 **'Climate policy and energy transition'** aims to support the ongoing transition of Germany's economy to a decarbonised future. In this regard, the German plan focuses on three areas: the promotion of renewable hydrogen; climate-friendly mobility; and climate-friendly renovation and construction;



2 **'Digitalisation of economy and infrastructure'** is aimed at promoting technological transformation through digitalisation and the development of efficient infrastructure. Relevant measures focus on data and data-driven innovation and the digital transformation of various economic sectors;



3 **'Digitalisation of education'** will be promoted to raise the German economy's long-term growth potential and promote wealth creation. This mission stems from the government's recognition that Germany is facing considerable challenges in the field of digital literacy;



4 **'Strengthening of social inclusion'** is based on the realisation that a strong sense of community is the hallmark of a resilient economy and society. The plan acknowledges that – owing to the coronavirus pandemic in particular – many social groups need additional support. This mission thus envisages, among other things, measures to promote labour market participation and appropriate wages and pensions;



5 **'Strengthening of a pandemic-resilient healthcare system'** seeks to improve public healthcare services, including those relevant to tackling the pandemic, and increase digitalisation in the healthcare system;



6 **'Modern public administration and reduction of barriers to investment'** seeks to promote a public administration that is capable of effective action and, at the same time, reduces administrative barriers to forward-looking investments. The coronavirus crisis has highlighted yet again that there is still a great deal to be done in this area. Effective regulation that encourages innovation is also key to ensuring that reforms are implemented as smoothly as possible.

| Mission (M) | Component (C) | RRF resources (€ billion) | Share |
|--|---|---------------------------|---------------|
| Mission 1: Climate policy and energy transition | M1C.1. Decarbonisation solutions using renewable hydrogen in particular | 3.3 | 11.7 % |
| | M1C.2. Climate-friendly mobility | 5.4 | 19.4 % |
| | M1C.3. Climate-friendly renovation and construction | 2.6 | 9.2 % |
| Mission 2: Digitalisation of economy and infrastructure | M2C.1. Data as raw material for the future | 2.8 | 9.9 % |
| | M2C.2. Digitalisation of the economy | 3.1 | 11.2 % |
| Mission 3: Digitalisation of education | M3C.1. Digitalisation of education | 1.4 | 5.1 % |
| Mission 4: Strengthening of social inclusion | M4C.1. Strengthening of social inclusion | 1.3 | 4.5 % |
| Mission 5: Strengthening of a pandemic-resilient healthcare system | M5C.1. Strengthening of a pandemic-resilient healthcare system | 4.6 | 16.3 % |
| Mission 6: Modern public administration and reduction of barriers to investment | M6C.1. Modern public administration | 3.5 | 12.4 % |
| | M6C.2. Reduction of barriers to investment | 0.1 | 0.2 % |
| | Total | 27.9 | 100.0% |

Largest measures under Germany's RRP



| Mission | Allocation (€ billion) | No of projects | Three largest projects in % of the mission |
|-----------|------------------------|----------------|--|
| Mission 1 | 11.30 | 15 | <ul style="list-style-type: none"> Support for the replacement of the private vehicle fleet: 22.1 % Building renovation: federal funding for energy-efficient buildings: 22.1 % Hydrogen projects within the framework of important projects of common European interest (IPCEIs): 13.3 % |
| Mission 2 | 5.90 | 7 | <ul style="list-style-type: none"> Vehicle manufacturers/supply industry investment programme: 32.2 % Microelectronics and connectivity project (IPCEI): 25.4 % Next generation cloud infrastructure and services project (IPCEI): 12.7 % |
| Mission 3 | 1.40 | 4 | <ul style="list-style-type: none"> Education platform: 43.9 % Investment programme for teacher devices: 35.7 % Modernisation of the Federal Armed Forces' educational and training facilities: 7.1 % |
| Mission 4 | 1.30 | 5 | <ul style="list-style-type: none"> Apprenticeship support: 55.8 % Investment programme 'childcare-financing' 2020-2021: special fund 'child day-care expansion': 38.5 % Digital pension overview portal: 2.7 % |
| Mission 5 | 4.60 | 3 | <ul style="list-style-type: none"> Programme to future-proof hospitals: 65.2 % Strengthening of the digital and technical resources of the public health service: 17.8 % Special programme to accelerate R&D of urgently needed Covid-19 vaccines: 16.3 % |
| Mission 6 | 3.60 | 6 | <ul style="list-style-type: none"> Digitalisation of the administration – Online Access Act: 56.3 % Digitalisation of the administration – modernisation of registers: 7.8 % European identity ecosystem: 5.7 % |

Ten largest projects



Share of total national RRF

| Project Name | Value (€ billion) |
|--|-------------------|
| Programme to future-proof hospitals (M5) | 3.00 |
| Digitalisation public administration (M6) | 3.00 |
| Support replacement private vehicle fleet (M1) | 2.50 |
| Funding for energy-efficient buildings (M1) | 2.50 |
| Vehicle manufacturer/suppliers investment programme (M2) | 1.90 |
| Hydrogen Projects IPCEIs (M1) | 1.50 |
| Microelectronic and connectivity IPCEI (M1) | 1.50 |
| Support buses with alternate propulsion (M1) | 1.10 |
| Digitalisation of the public health service (check) (M5) | 0.80 |
| Accelerate R&D of urgently needed vaccines (M5) | 0.80 |

Source: European Parliament/Deutscher Aufbau- und Resilienzplan



1

Mobility

Innovation premium for the purchase of an e-vehicle doubled

- Innovation premium for the purchase of an e-vehicle doubled Federal grants for purchase of battery electric or fuel cell vehicles and externally rechargeable hybrid electric vehicles. For vehicles with a price of up to 40,000 euros, the federal subsidy increases from 3,000 to 6,000 euros
- Deadline: 31 December 2022
- [Link](#)

Expansion of the public charging station infrastructure for electric vehicles

- Support program for all natural and legal persons
- Subsidy of up to 60 % of the expenses (2,5 billion euros available)
- No upper limit on the charging capacity

Deadlines:

- The application period for new constructions ended on 18.01.2022
- The application for modernizations ended on 27.01.2022
- [Link](#)

Vehicle tax alignment according to CO2 emissions for passenger cars

- Assessment basis for newly registered vehicles as of 1 January 2021 based on CO2 emissions per kilometer-tether and raised in stages above 95g CO2/km;
- The higher the CO2 value, the higher the tax rate for the share of the respective stage. Thus, the tax rate increases from 2 euros per g/km in stage 1 (over 95 g/km to 115 g/km) to 4 euros per g/km in stage 6 (over 195 g/km).
- Ten-year motor vehicle tax exemption for all-electric vehicles extended to 31 December 2030
- [Link](#)

Investment program for vehicle manufacturers and supplier industry

- 2 billion euro investment program to modernize production in the vehicle manufacturing and supply industry
- Grants will be awarded for investments to support the upcoming transformation, in particular in new production facilities, in Industrie 4.0-capable infrastructure, in investments for environmental sustainability, and for accompanying consulting and qualification projects
- [Link](#)

Social & Mobile Fleet Exchange Program

Eligible are organizations and companies operating in the health and social care sector and Lessors that lease vehicles to these organizations and businesses.

The amount of the subsidy for the purchase of an electric vehicle:

- a flat rate of EUR 10,000 or up to 40 percent of your eligible expenses.
- For SMEs the grant can be increased by up to 20 percent

The amount of the grant for charging infrastructure:

- For a wallbox (AC) up to 22 kW at a flat rate of EUR 1,500,
- a charging pole (AC) up to 22 kW a flat rate of EUR 2,500.
- Application open until 1 March 2022 under this [Link](#)

Electromobility funding guideline

Support program for conversion to electromobility

- Financing of municipal and commercial electric mobility concepts (environmental studies),
- Procurement of electric vehicles and charging infrastructure (fleet program), and
- Research and development to support the market ramp-up of electric vehicles and innovative concepts for climate-friendly mobility.

Based on the new Electromobility Funding Guideline a funding basis is available until 2025. The application deadline for the [current funding schemes](#) was in 2021.

Funding for e-buses and their charging infrastructure

- Funding for e-buses and their charging infrastructure
- 1.2 billion euros limited until the end of 2021

Fleet renewal program for heavy commercial vehicles (trucks)

Acquisition of brand-new trucks that

- meet the requirements of the current Euro VI emissions standard or
- are electric or hydrogen-powered,

if an old truck with emissions standards Euro 0 to Euro V/EEV is scrapped at the same time, with up to 15,000 euros.

In addition, a grant of up to 5,000 euros is awarded for the purchase of intelligent trailer technology (e.g. technologies for tire pressure measurement or digital control for semitrailers and trailers or aerodynamic add-on parts).

Application deadline was in [2021](#)

Equity for Deutsche Bahn

- The German railway company “Deutsche Bahn” receives 2 billion euros in equity
- 600 million euros will be used to significantly reduce rail freight track access charges

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Energy transition and climate goals

IPCEI Hydrogen

Setting up an „Important Project of Common European Interest (IPCEI) for building up an entire value chain for hydrogen in the EU

- Deadline for [expression of interest](#) from businesses in Germany: February 2021
- 62 projects from Germany were selected
- 1,5 billion euros public funding from the German government

Funding scheme „Decarbonization in industry“

- 3 billion euros in funding through 2024 for the "[Decarbonization in Industry](#)" funding program
- Eligible projects are those in energy-intensive industries with process-related emissions that are suitable for reducing greenhouse gas emissions as far as possible and permanently.
- Funding covers research and development from technology maturity level (TRL) 4, testing in trial or pilot plants, and investment in industrial-scale plants.
- Permanently open for applications

Carbon Contracts for Difference

- Based on a [paper](#) with key points, the German Ministry for the Environment (BMU) will develop a funding program for climate protection contracts
- Climate protection agreements are based on a mutual payment obligation of the parties to the agreement, which results from the difference between a contractually defined price (strike price) for greenhouse gas emissions and its market price. The German government guarantees to subsidize the difference between the actual project-related abatement costs and EU ETS prices according to certain parameters.
- Pilot program: 550 million euros

Project based research

60 million euros additional funding for pre-existing funding programmes:

- 30 % [KlimaPro-Industrie](#):
- 50 % [KMU-innovativ](#):
- 20 % Klimaresilienz/Transfer

Additional funding for CO2 building refurbishment program

The following are subsidized

- new construction and initial acquisition of new energy-efficient [residential](#) and [non-residential](#) buildings and
- the refurbishment and initial acquisition of existing buildings and
- Energy planning and construction supervision in connection with the implementation of subsidized measures and sustainability certifications.

Applications are currently only possible for certain [individual measures](#) to increase energy-efficiency of buildings until the Federal budget for 2022 has been approved

Subsidy for lowering the Renewable Energy Surcharge („EEG-Umlage“)

- EEG-Umlage 2021 at 6.5 ct/kWh
- EEG-Umlage 2022 at 6.0 ct/kWh



3

Digitization

Nationwide 5G network

- 5 billion euros
- Increasing the previously earmarked funding in pre-existing [funding programs](#) to bring 5G to all regions with a currently insufficient 5G coverage until 2025
- Building up the national Communications Infrastructure Agency („Mobilfunkinfrastrukturgesellschaft“) to close regional gaps in mobile and broad band communication networks
- (Not part of the NRRP but part of the German governments 2020 stimulus package)

Investments in Artificial Intelligence (AI)

Increase of planned investments by €2 billion to €5 billion by 2025 for

- existing [AI funding programs](#)
- acquisition of [supercomputers](#)

A series of supercomputers is to be purchased by the EU and the member states. The deadline for one current call for applications is 14 February 2022.

Research, development and use of artificial intelligence methods in SMEs

Funding is available for individual or collaborative projects on the following topics:

- automated information processing, digital assistants, computer vision/image understanding, speech and text understanding, data-driven systems and data engineering, and basic issues related to intelligent systems.

You receive the funding as a grant for a period of mostly 2 to 3 years

- Funding for SMEs up to 50 percent of eligible costs as a grant.
- start-ups from the AI sector up to 75% as a grant (up to EUR 100,000 per year)
- Evaluation deadlines are twice per each year. The last deadline is 15.10.2023.

Development of quantum computers

Funding for research and development projects for high-performance computing

- additional 2 billion euros from the economic stimulus package,
- plans include the construction of at least two quantum computers
- As a commercial enterprise and a research institution with an economic project, you will usually receive 50 percent of your eligible costs as a grant.
- Calls for proposals are published annually by the EuroHPC JU. The funding procedure is in two stages.

IPCEI Microelectronics and communication technologies

The IPCEI aims to strengthen microelectronics in Germany and Europe and reduce dependence on third countries

- The total EU wide need for public funding for the IPCEI is estimated at EUR 4.5 billion, of which EUR 1.5 billion will be provided by the German NRRP.
- On 20 Dec. 2021 the 20 participating EU Member States submitted first projects of the IPCEI to the EU for approval. Germany has selected 32 microelectronics business projects for the IPCEI. The investment volume of these 32 projects totals more than €10 billion. EU wide investments are estimated at €15 billion.
- Apart from Germany, another 19 EU Member States and around 90 companies are participating in this IPCEI.

IPCEI Cloud Services and Infrastructure

Europe-wide initiative on next generation cloud infrastructures and services

- 750 million euros in public funding from the German NRRP
- The core objective of the IPCEI is to ensure the development of state-of-the-art cloud infrastructures and services throughout Europe and in accordance with European values, to ensure the EU's sovereignty.
- European, high-performance and real-time capable data infrastructure, energy-saving energy-saving, climate-neutral, highly efficient and interconnected services are to be developed.
- The plan was to prenotify the IPCEI-CIS to the European Commission by the end of 2021 with a view to receiving the body's approval for all individual projects within the first half of 2022

Increase in "Digital Now" funding program

- Investment support for SMEs (up to 500 employees)
- The program offers financial grants and is designed to encourage companies to invest more in digital technologies as well as in the qualification of their employees
- 250 million increase in previously earmarked funding
- The [application](#) for funding is to be submitted up to and including 2023, with monthly drawings

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Digitization of Education

Digitization of education

- Teacher terminals (€500 million)
- National online educational platform (€630 million)
- Educational competence centers (€205 million)
- Modernization of the educational facilities of the German armed forces (€100 million)



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Healthcare

Public Health Service Pact

- In the pact, the federal government is providing 4 billion euros for personnel, digitization and modern structures. The funding period is 2021 – 2026.
- At least 1,500 new positions are to be created in the federal states by the end of 2021 and filled with physicians and specialist and administrative staff. At least another 3,500 full-time positions are to be created by the end of 2022
- The "German Electronic Reporting and Information System for Infection Protection" (DEMIS) is to be available to all health authorities at federal and state level by the end of 2022
- €814 million in funding to modernise public healthcare offices
- €3 billion to digitalise hospitals

Program to accelerate research and development of vaccines against SARS-CoV-2

- Special program for the acceleration of research and development in Germany is to be expanded for the development of urgently needed vaccines against SARS-CoV-2.
- A total of up to EUR 750 million for the years 2020 (EUR 450 million) to 2021 (EUR 300 million)
- Vaccine development projects of three companies will be funded: CureVac AG, BioNTech SE and IDT Biologika GmbH

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Existing and planned Important Projects of Common European Interest (IPCEI)

Important Projects of Common European Interest (IPCEI)

IPCEI are used to build up entire new value chains in the EU. They are supported with large amounts of public funding from participating Member States, which create high investment dynamics in these sectors.

Already existing IPCEI:

- 1 IPCEI Microelectronics
- 2 IPCEI Battery Cell Production

IPCEI Microelectronics

= €1,75 billion public funding+ €6 billion private investment

| Energy efficient chips | Power semiconductors | Smart Sensors | Advanced optical equipment | Compound materials |
|---|---|--|--|--|
| CEA-Leti  | 3-D Micromac*  | CEA-Leti  | AMTC*  | AZUR Space Solar Power  |
| Cologne Chip  | AP&S International  | CorTec  | Carl Zeiss  | CEA-Leti  |
| Globalfoundries  | AT&S  | Elmos Semiconductors  | | Integrated Compound Semiconductors  |
| NXP Semiconductors Austria  | CEA-Leti  | Fondazione Bruno Kessler  | | IQE  |
| Racy/CS  | Elmos Semiconductors  | Infineon  | | Newport Wafer Fab  |
| Soitec  | Infineon  | Robert Bosch  | | SPTS Technologies  |
| ST Microelectronics    | Infineon Austria  | ST Microelectronics    | | OSRAM  |
| X-FAB  | MURATA   | TDK-Micronas  | | SYNRED  |
| | Robert Bosch  | LYRED  | | Soitec  |
| | SEMIKRON  | X-FAB   | | ST Microelectronics  |
| | ST Microelectronics    | | | |
| | X-FAB  | | | |

Name in *italics* = SME
*associated partner

IPCEI Battery cell production (1)

= €3,2 billion public funding + €5 billion private investment



IPCEI Battery cell production (2)

| Raw and advanced materials | Battery cells | Battery systems | Recycling and sustainability |
|----------------------------|------------------------|-----------------------|------------------------------|
| ACIS | Alumina Systems | ACIS | Borealis |
| Arkema | BMW | Alumina Systems | Enel X |
| Borealis | Cellforce Group | AVL | Engitec |
| Ferroglobe | ElingKlinger | BMW | FIAMM |
| Fluorsid | FCA | Endurance | Fortum |
| Green Energy Storage | Green Energy Storage | Enel X | Hydrometal |
| Hydrometal | InoBat Auto | Energio Aqua | Italmatch Chemicals |
| Italmatch Chemicals | Manz | FCA | Keliber |
| Keliber | Midac | FIAMM | Liofit |
| Prayon | Northvolt | FPT Industrial | Little Electric Cars |
| SGL Carbon | SGL Carbon | Green Energy Storage | Midac |
| Solvay | Skeleton Technologies | InoBat Energy | SGL Carbon |
| Tokai Carbon Group | Sunlight Systems | Manz | Tesla |
| VARTA Micro Innovation | Tesla | Miba eMobility | Valmet Automotive |
| | VARTA Micro Innovation | Midac | ZTS VaV |
| | | Rimac Automobili | |
| | | Rosendahl Nextrom | |
| | | Skeleton Technologies | |
| | | Sunlight Systems | |
| | | Tesla | |
| | | Valmet Automotive | |
| | | Volllabor | |

= €2,9 billion public funding
+ €9 billion private investment

Furter IPCEI currently being developed

- IPCEI Hydrogen
- Second IPCEI Microelectronics
- IPCEI Cloud-Infrastructure/Services (GAIA-X)

- Further IPCEI e.g. on space-technologies, low carbon aviation fules, raw materials and in the healthcare sector are currently being discussed.

Sources for information on German public funding programs

- Database for funding programs „Förderdatenbank“

[Förderdatenbank - Startseite \(foerderdatenbank.de\)](https://foerderdatenbank.de)

- Information on possible further Important Projects of Common European Interest (IPCEI) with German participation will be published on the website of the German Federal Ministry of Economic Affairs and Climate Action

[BMWK - Bundesministerium für Wirtschaft und Klimaschutz \(bmwi.de\)](https://www.bmwi.de)

Questions?

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