




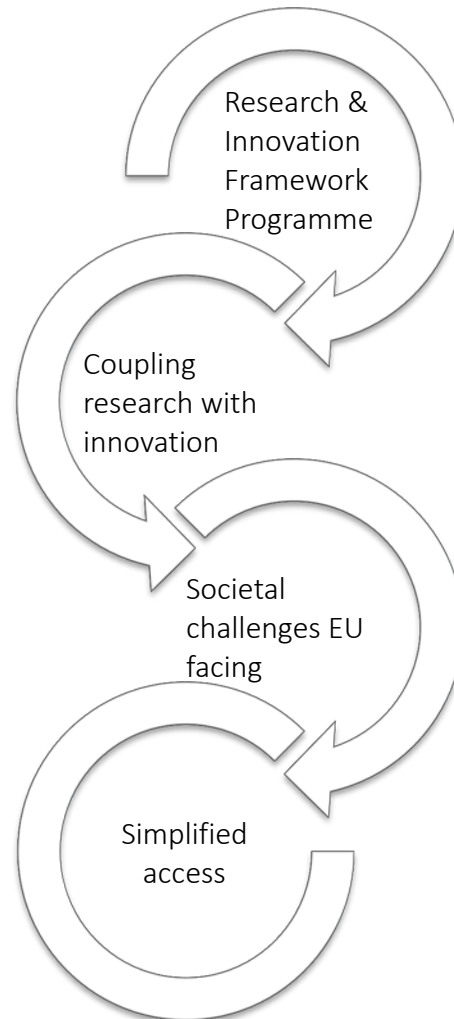
Tools and Funding schemes for the Raw Materials sector

Katerina Papadouli
SC2 and KET Bio National Contact Point for Greece





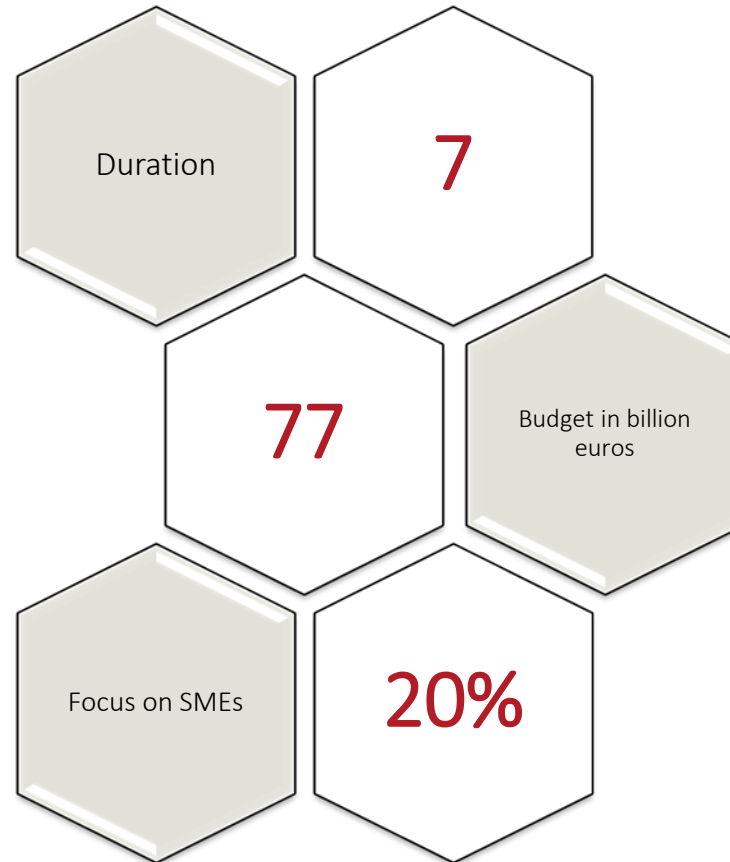
The Programme Structure



Εθνικό Σημείο Επαφής για τον Ορίζοντα 2020



The Programme Structure



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Εθνικό Σημείο Επαφής
για τον Ορίζοντα 2020



The Programme Structure

Horizon Main Pillars

Excellent Science

World class science as foundation of tomorrow's technologies, jobs and wellbeing.

Leadership in Industrial Technologies

speed up development of technologies and innovations that will underpin tomorrow's Businesses | help innovative European SMEs to grow into world-leading companies

Societal Challenges

Innovative solutions- coming from multi-disciplinary collaborations - to achieve EU citizens and society concerns



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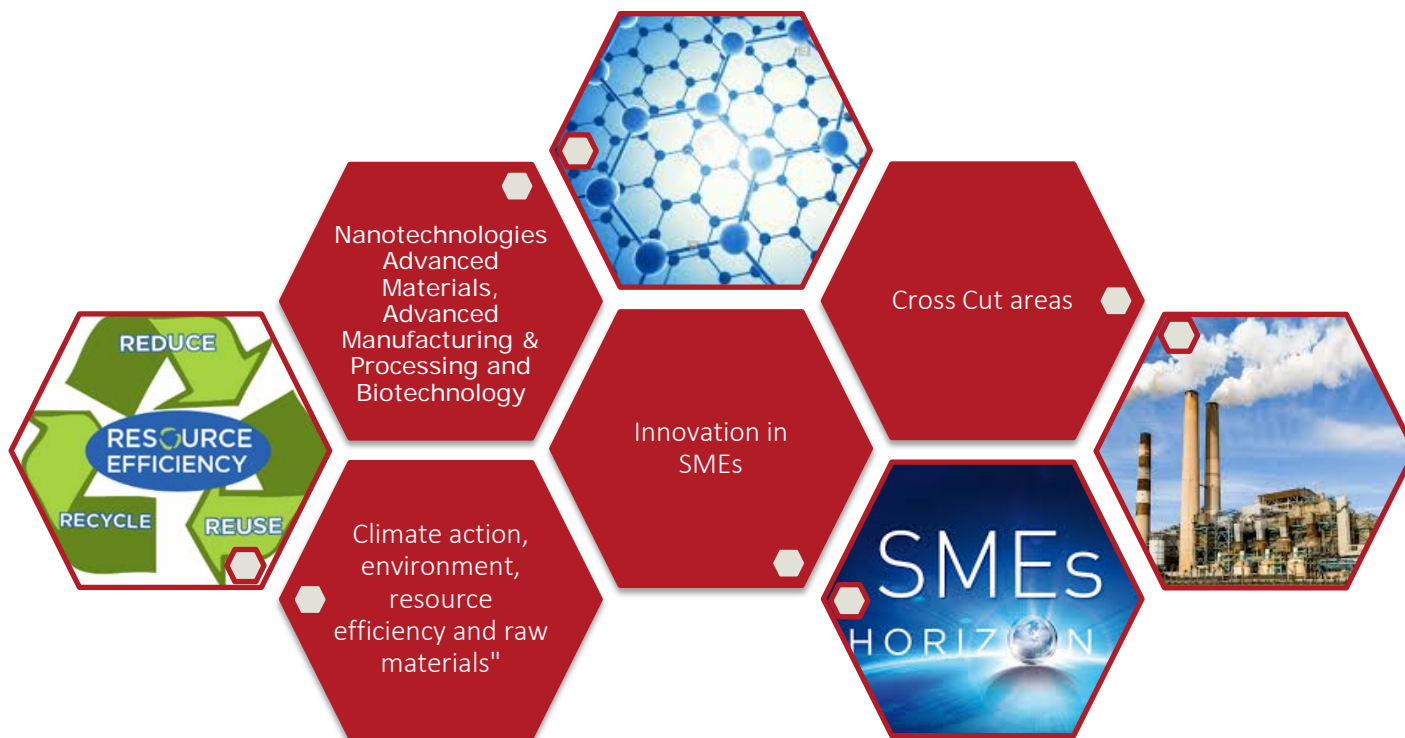


Εθνικό Σημείο Επαφής
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Raw Materials in Horizon 2020

Thematic Priorities with relevant topics



Εθνικό Σημείο Επαφής για τον Ορίζοντα 2020



Raw Materials in Horizon 2020

CE-SC5-06-2018: New technologies for the enhanced recovery of by-products

Climate | Two stage | RIA | Deadline: 27 Feb 2018 (First Stage) 05 Sep 2018 (Second Stage)

- Actions should **develop sustainable systemic solutions** through industrially- and user-driven multidisciplinary consortia covering the relevant value chain of non-energy, nonagricultural raw materials. Actions should **evaluate the potential by-products existing in primary or secondary raw materials** (usually accompanying the major constituents at low concentrations) and should develop energy-, material- and cost-efficient **new sustainable mineral processing and/or metallurgical technologies and processes** to increase the selectivity and the recovery rates of valuable by-products, particularly Critical Raw Materials. The importance of the targeted sources of by-products for the EU economy should be duly demonstrated in the proposal.



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για τον Ορίζοντα 2020

EUR 3 million to EUR 7 million



Raw Materials in Horizon 2020

CE-SC5-07-2018-2019-2020: Raw materials innovation for the circular economy: sustainable processing, reuse, recycling and recovery schemes

Climate | Two stage | IA | Deadline: 27 Feb 2018 (First Stage) 05 Sep 2018 (Second Stage)

Proposals shall address only one of the following issues:

- A) Sustainable processing and refining of primary and/or secondary raw materials
- B) Recycling of raw materials from end-of-life products
- C) Recycling of raw materials from buildings
- D) Advanced sorting systems for high-performance recycling of complex end-of-life products



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Εθνικό Σημείο Επαφής
για τον Ορίζοντα 2020

EUR 8 million to EUR 13 million



Raw Materials in Horizon 2020

CE-SC5-08-2018-2019-2020: Raw materials policy support actions for the circular economy

Climate | Single Stage | CSA | Deadline: 27 Feb 2018

- **Voluntary scheme for certification of treatment facilities for key types of wastes** Actions should comprise the development and launch of a voluntary scheme for **certification** – including verification– of **treatment facilities** for key types of **waste/recyclates** containing significant amounts of **Critical Raw Materials** (e.g. electronic waste and/or waste batteries).
- **Resource efficiency in wood processing, recovery and recycling** Consortia should identify, assess and document existing practices in a representative set of EU Member States and possibly third countries, and **create a network to widely disseminate and transfer good practices** covering both issues: resource-efficient wood processing and wood waste recycling. Resource-efficient wood processing in the woodworking sector should improve companies' operational performance and hence the EU sector's overall competitiveness.



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Εθνικό Σημείο Επαφής
για τον Ορίζοντα 2020

Up to EUR 2 million



Raw Materials in Horizon 2020

SC5-09-2018-2019: New solutions for sustainable production of raw materials

Climate | Two Stage | RIA | Deadline: 27 Feb 2018 (First Stage) 05 Sep 2018 (Second Stage)

- **Breakthrough concepts and solutions for sustainable exploration, mining and/or processing:** Actions should develop ground-breaking concepts and solutions for exploration, mining and/or processing to secure the sustainable access to abiotic raw materials for the EU in long term and gain the trust of the society in clean and safe production of raw materials. Recycling of end-of-life products is excluded from this topic. Solutions for marine mineral resources are excluded from this topic.



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Εθνικό Σημείο Επαφής
για τον Ορίζοντα 2020

EUR 3 million to EUR 7 million



Raw Materials in Horizon 2020

CE-SPIRE-03-2018: Energy and resource flexibility in highly energy intensive industries

Cross Cutting | Single | IA (50%) | Deadline: 22 Feb 2018

Proposals are expected to develop:

- **Innovative production technologies allowing flexibility in terms of raw material**, including new, modified or secondary raw materials, and intermediate or final products are expected to be developed. They have, at the same time, to consider quality of the main products and by-products in view of their valorisation through re-use and recycle
- **Novel advanced energy systems**, that could include new combustion and gasification techniques applied to the highly resource and energy intensive industries
- New developments should clearly indicate how the use of sustainable electrical energy sources, or heat recovery, could **enhance energy efficiency and cope with a fluctuating energy input**. These actions have to bring a significant impact on the sustainability profile of the process and/or the final products.



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για τον Ορίζοντα 2020

EUR 8 million to EUR 12 million



Raw Materials in Horizon 2020

CE-SPIRE-10-2018: Efficient recycling processes for plastic containing materials (IA)

Cross Cutting | Single | IA | Deadline: 22 Feb 2018

Plastics materials are produced mainly from raw materials of fossil origin (e.g. PE, PP, and PET). A variety of **bio-based plastic materials** are increasingly available. Proposals submitted under this topic are expected to cover processes for the production of recyclable materials containing plastics.

Aspects to be considered are:

- Improved energy and resource efficiency
- Integration with the relevant value chains, ensuring the secure supply of the raw material streams
- Process flexibility and ability to utilise waste heterogeneous plastic materials
- Key issues related to the quality of the raw (including secondary) material streams
- Quality/specifications of the yielded streams ensuring their usability by downstream industries
- Non-technological hurdles, such as regulations and standards, to enable the prompt
- deployment in industry of the developed concepts



Εθνικό Σημείο Επαφής
για τον Ορίζοντα 2020

EUR 6 million to EUR 8 million



Raw Materials in Horizon 2020

LC-NMBP-30-2018: Materials for future highly performant electrified vehicle batteries

NMBP | Two stages | RIA | Deadline: 23 Jan 2018 (First Stage) 28 June 2018 (Second Stage)

- **New or significantly improved materials and/or chemistries** have to be developed to **optimise the battery cell and its components**, with features clearly beyond the state-of-the-art technologies that are currently used in commercial cells for automotive applications. Proposals should in particular investigate phenomena and problems at the interfaces of the components of the battery cell electrode systems that are often not well understood. They should also solve the safety issues encountered by the current Li-ion chemistries, including thermal runaway (e.g. through the use of solid-state electrolytes instead of flammable, liquid electrolytes). Knowledge on the ageing processes in order to know the cell parameters for eventual second life use should be as well gained.



Εθνικό Σημείο Επαφής
για τον Ορίζοντα 2020

EUR 6 million to EUR 8 million



The SME Instrument

What is the SME Instrument

- A new Horizon 2020 funding tool for high-quality, high-prospect innovation in all forms (product, services, processes)
- Designed for SMEs with activities in the area of Societal Challenges and Industrial Leadership
- Budget approximately € 3.000.000.000 for the duration of H2020 (2014-2020)



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»» The SME Instrument

The 3 phases of the SME Instrument

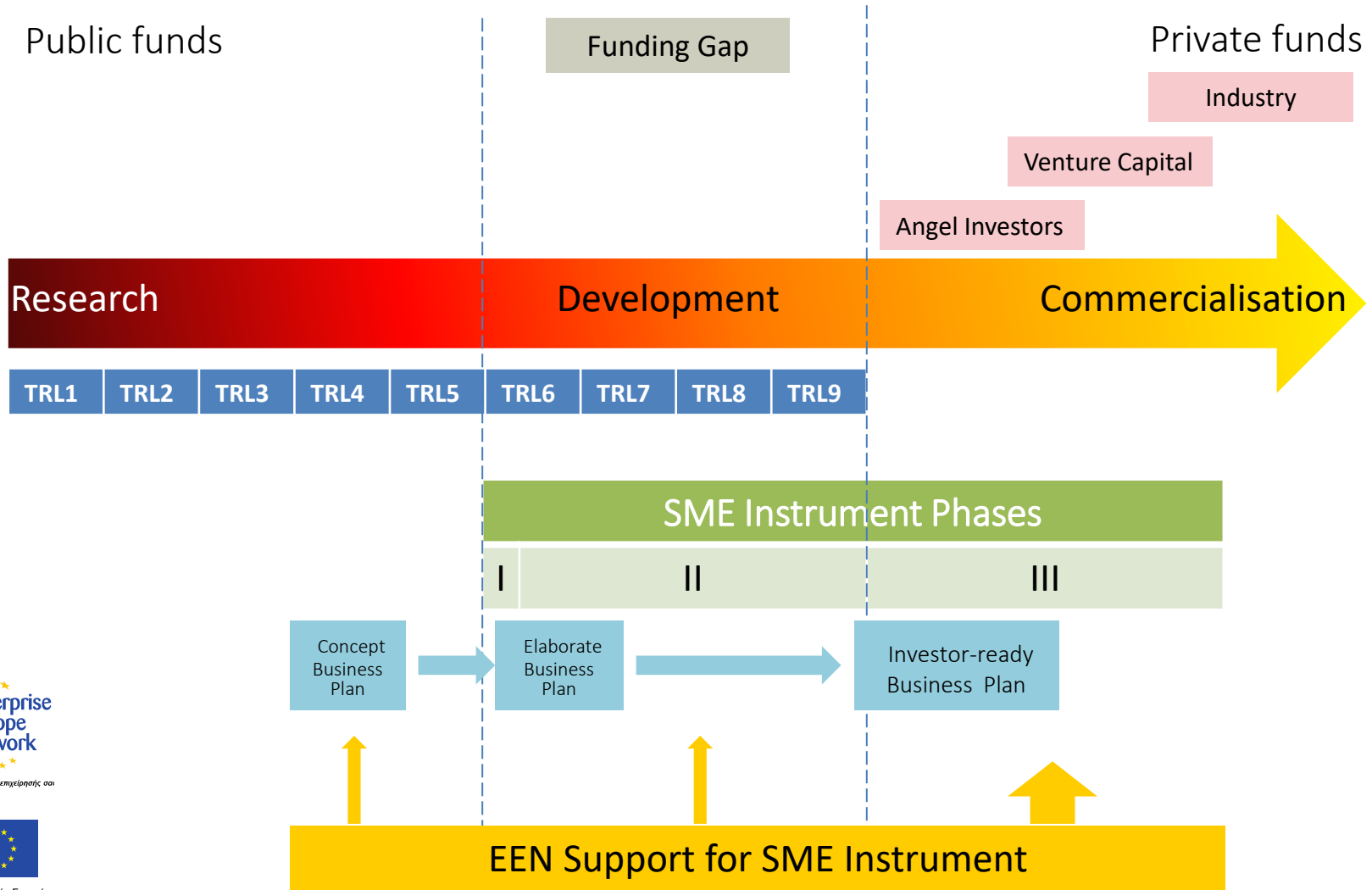


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για τον Ορίζοντα 2020

»» The SME Instrument



Εθνικό Σημείο Επαφής για τον Ορίζοντα 2020



Services for market success





The SME Instrument

Thematic Areas

- Open Disruptive Innovation Scheme (ICT)
- Nanotechnologies, advanced materials or advanced manufacturing and processing technologies
- Dedicated support to biotechnology SMEs
- Space research and development
- Healthcare biotechnology sector
- ICT solutions for Health, Well-Being and Ageing Well
- Sustainable and competitive agriculture, forestry, agri-food and bio-based sectors
- Innovative solutions for blue growth
- Low carbon and efficient energy system
- Transport and Smart Cities Mobility
- **Climate action, environment, resource efficiency and raw materials**
- New business models for inclusive, innovative and reflective societies
- Engaging SMEs in security research and development



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Εθνικό Σημείο Επαφής
για τον Ορίζοντα 2020



Changes in the SME Instrument in the new work programme

- Fully bottom-up. The link between application and (remote) evaluation will be made via keywords.
- The budget is increasing constantly (Reference 2017: 386 M€)
 - 2018: 480 M€
 - 2019: 552 M€
 - 2020: 601 M€
- Interviews in Phase 2
- Phase 2 threshold rises to 13



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Εθνικό Σημείο Επαφής
για τον Ορίζοντα 2020



SME Instrument Status – Greece



24 PARTICIPANTS



10,12M€ ALLOCATED



25 PROJECTS
COORDINATED

Climate change & Raw materials Topic

Eclipse (phase 1)

Ecological Low Impact Production Sport Elastomer: Main objective **to introduce a new generation of coated recycled rubber granulates** for infill material with better elasticity performance

Prometheus (phase 2)

The project will bring to the market a disruptive innovation, allowing for the first time **to substitute up to 60% of PGMs used in autocatalysts with copper nanoparticles**

GReen Desalination (phase 1)

Aims to develop a closed-loop technology for **full recovery of water and raw materials from the wastewater effluent**



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Εθνικό Σημείο Επαφής
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Raw Materials in Horizon 2020

SMEInst-11-2016-2017: Boosting the potential of small businesses in the areas of climate action, environment, resource efficiency and raw materials

Innovation in SMEs | Single Stage | IA

Last cut-off date for Phase 1: 07/11/2017

Last cut-off date for Phase 2: 18/10/2017

- This topic is targeted at all types of **eco-innovative SMEs** in all areas addressing the climate action, environment, resource efficiency and **raw materials challenge** – including but not restricted to the 2016-2017 strategic priorities of systemic eco-innovation and circular economy, nature-based solutions, climate services, **sustainable supply of raw materials**, harnessing GEOSS Earth observation data, cultural heritage for sustainable growth, and water – focusing on SMEs showing a strong ambition to develop, grow and internationalise. All kinds of promising ideas, products, processes, services and business models, notably across sectors and disciplines, for commercialisation both in a business-to-business (B2B) and a business-to-customer (B2C) context, are welcome.



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Useful links

- › Horizon 2020 Participant Portal
<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>

- › National Contact Points
http://ec.europa.eu/research/participants/portal/desktop/en/support/national_contact_points.html

- › Enterprise Europe Network
<http://een.ec.europa.eu/>

- **Horizon 2020 Draft Work Programmes**
<https://ec.europa.eu/programmes/horizon2020/en/what-work-programme>



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Save the date!

Horizon 2020 Information Day

November 7, Athens

Presentation of the new Work Programmes 2018-2020:

- NMPB
- Transport
- Space
- Climate Action
- Food Security

➤ Stay updated: <http://praxinetwork.gr>



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Thank you for your attention

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