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Economy and Education

The WHAT, WHY and HOW of the circular economy approach for project practice

An introduction to the circular economy for identifying project entry points



What does 'circular economy' mean, and why is it so relevant now?

This document serves as an introduction to the concept of the circular economy (CE). It explores the fundamental questions of 'WHAT' the CE entails, 'WHY' it is essential to integrate CE principles, and 'HOW' to incorporate them into new or ongoing projects.

The concept of a CE has roots dating back several decades, primarily through reflections on closed-loop production systems to minimise waste. In short, it "is about creating closed-loop material flows, keeping products, components and materials at their highest utility and value and using them through multiple lifecycles" (DFGE, 2020).

The growing concerns about resource scarcity, decarbonisation requirements of economic growth models, and consumer approaches have yet to gain importance and become synonymous with a more sustainable development and production

approach. While, in general, the linear economy and consumer behaviour worldwide follow the 'take-make-waste' approach, the CE emphasises the R-approach (see Figure 1) to prolong product cycles, add regenerative value to resource use, and create opportunities for innovation, income, and employment. The R-approach demonstrates that there is a diverse range of entry points into the CE framework. The Rs enrich each other and can also be interpreted as entry points that are strongly interrelated with each other. For instance, the redesign or re-manufacturing of products includes rethinking the manufacturing process and refusing certain inputs and materials that cannot be dismantled but require modular strategies. Remanufacturing also involves reuse, repair, refurbishment, and, in some cases, recycling of products that cannot be reused in their current form. Nonetheless, the recycling aspects come at the end of the circular loop after more resource-sensitive options have been made use of.

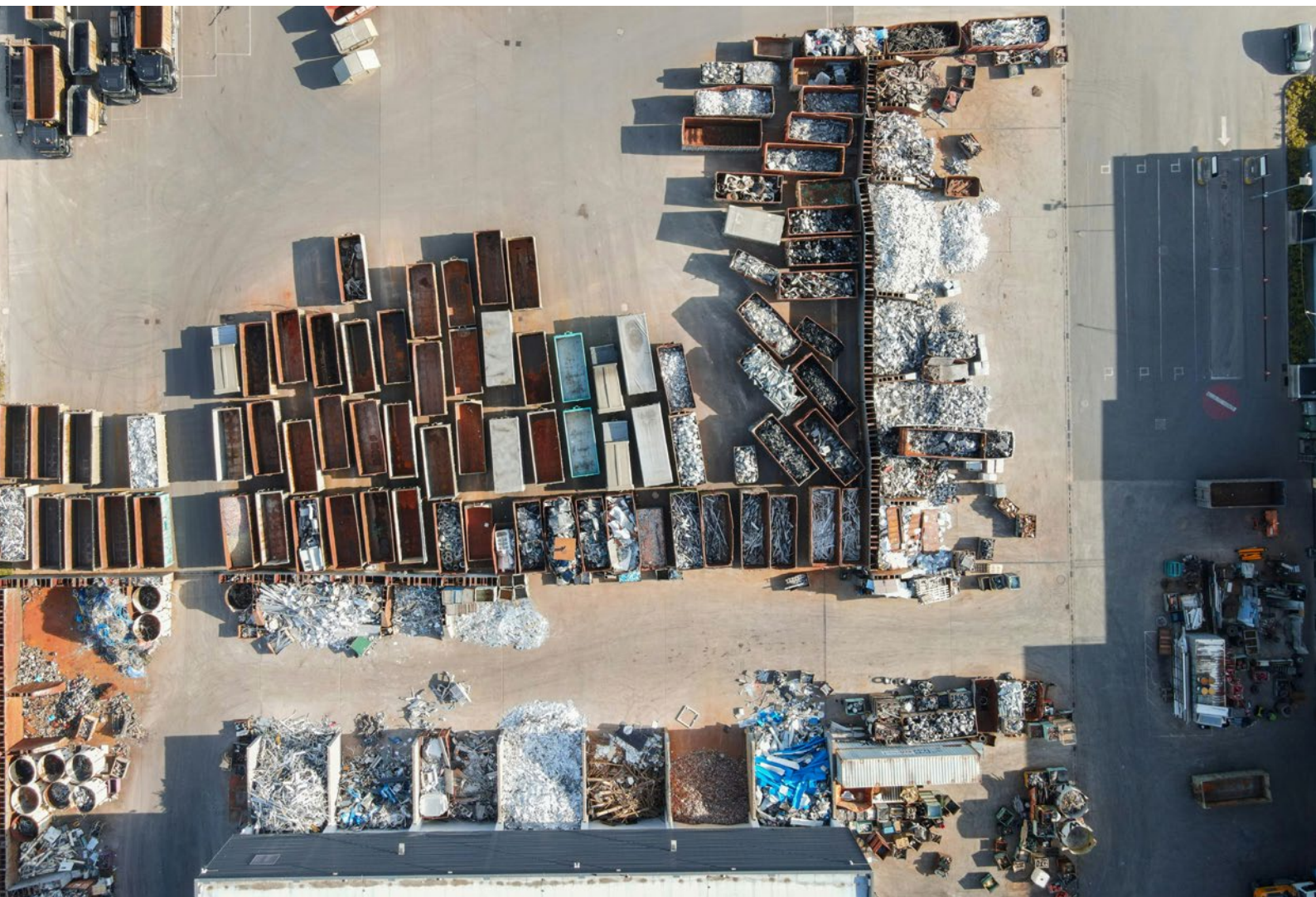
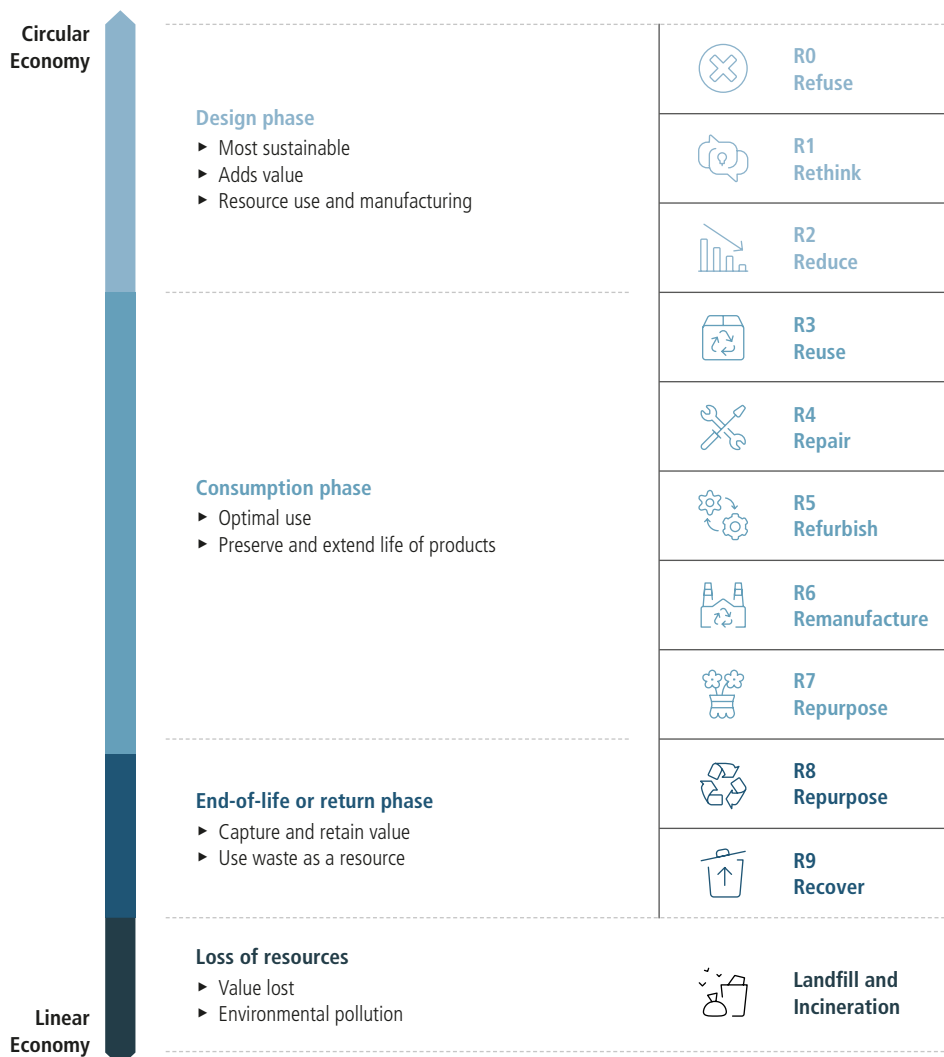
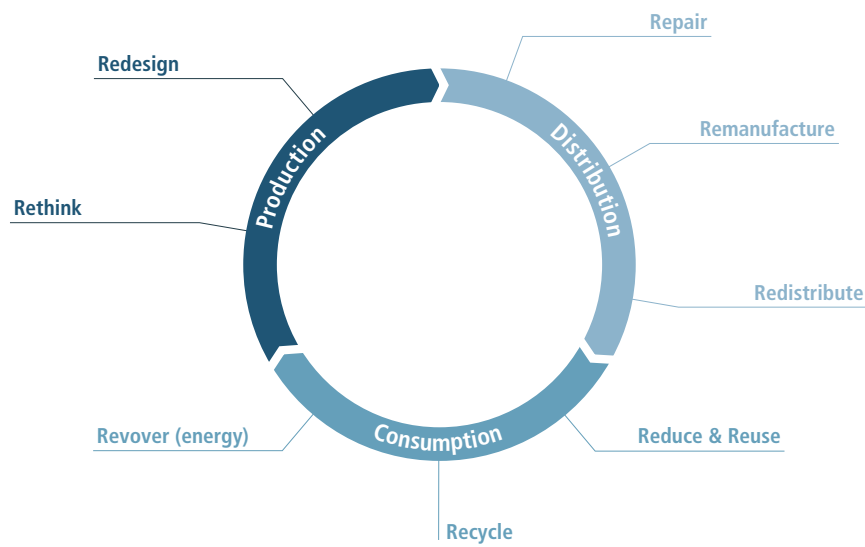


Figure 1 The R-approach and its steps as the main ingredient of the CE (Sources: ACR+ and www.circularise.com)



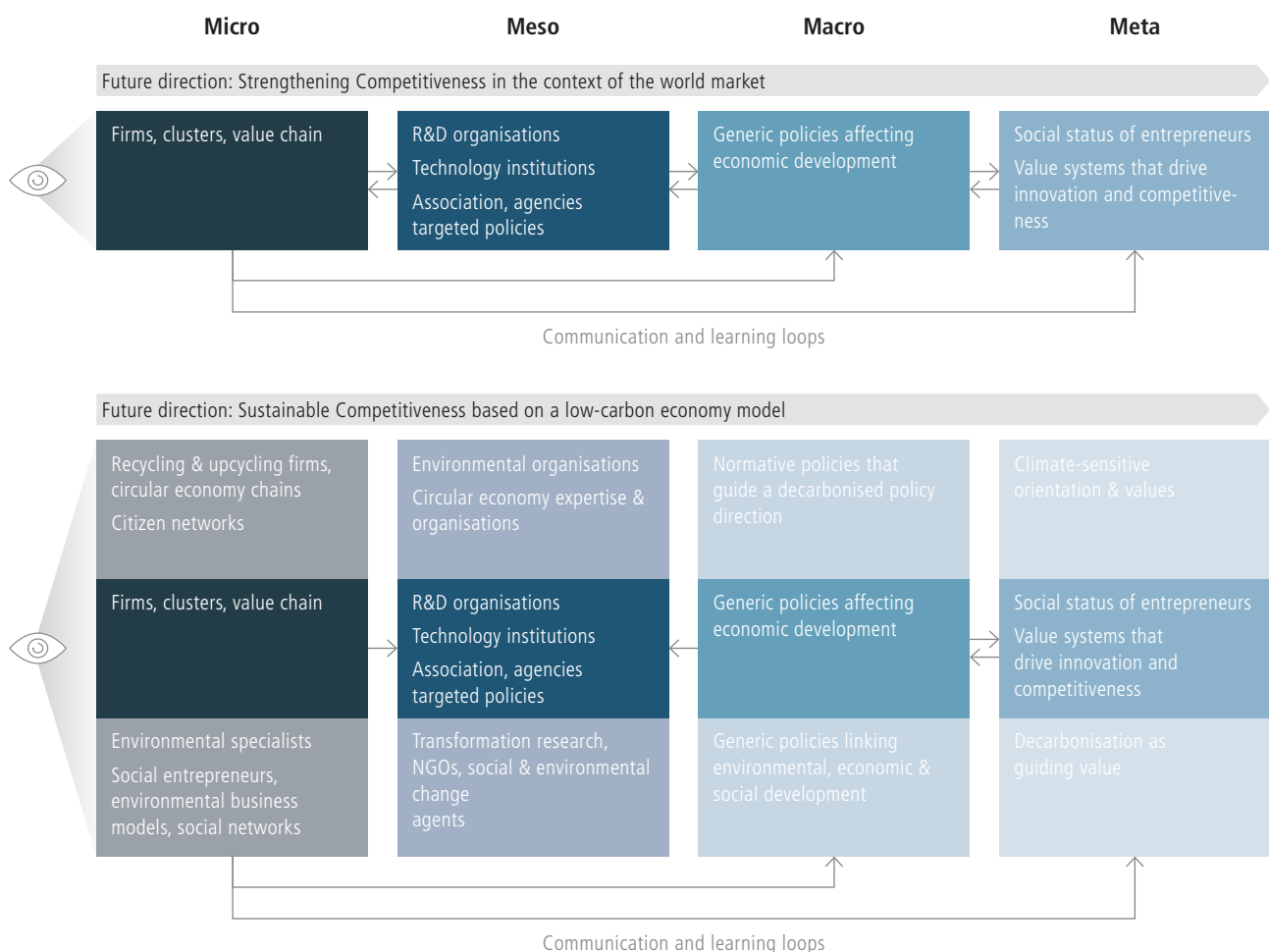
Why is the CE approach relevant for an inclusive green economy?

The CE perspective offers a fresh lens for examining business opportunities, skills development, and service and policy requirements. It includes additional stakeholders and opportunities for support that are often overlooked in linear development efforts (Figure 2¹).

For development projects focused on economic development, value chain promotion, skills development, and poverty reduction, the CE approach can open new avenues for supporting partners and target groups while leveraging innovation potential. It can include the promotion of new sustainable busi-

ness models, improving supply chain relations, the promotion of social innovations through, for example, neighbourhood groups or knowledge networks working on waste issues or redesigning products, skills development innovations providing new services for remanufacturing, redesigning, etc. It also addresses certain sectors by redefining and improving efficiency in their production and value chain systems. Also, poor people are particularly exposed to or employed in waste-picking activities. Finally, it is oriented towards promoting a paradigm shift towards a more decarbonised and possibly inclusive development approach.

Figure 2 Additional actors come on stage when taking on the CE lens.



¹ The Figure includes e.g. businesses and civil society actors active in recycling, remanufacturing, reusing, repairing resources, NGOs active in recycling, reusing, upcycling and reducing resources, R&D and service providers adding knowledge and solutions for better redesigning, remanufacturing, or better recycling products. Also, additional public agencies and ministries come into play, e.g. Ministry of the Environment, climate agencies etc. (Mesopartner, 2023).

How: A systemic approach to the CE as a framework to design new CE-related projects

A systemic approach often requires expanding the range of relevant stakeholders to widen the perspective and the coalitions of cooperation and working at different levels that are mutually reinforcing and closely coordinated (Hauschild et al., 2022).

In practice, promoting a systemic CE project approach requires parallel interventions at different levels. The systemic competitiveness framework (Meyer-Stamer, 2005) offers a useful tool for identifying and reflecting on parallel interventions at the micro, meso, macro, and meta levels (see Figure 3 on steps, criteria, actors and options for entry points). At the micro level, businesses and business network relationships (e.g. in a cluster, a value chain or sector) with a group of formal or informal businesses or civil society actors (e.g. self-help groups) are supported that look for innovative solutions and that can be promoted through green business solutions (e.g. in the R-fields such as redesign of products, remanufacturing, recycling refurbishing, upcycling, etc.). The meso level is the level of support organisations and service providers with business support measures. It also includes targeted support programmes, e.g. from local or national governments, to create bridges between support organisations and businesses. At the macro level, regulations and policies relevant to enforcing CE solutions are defined. At the meta level, efforts to raise societal awareness are critical, fostering shared values and engagement among societal groups and stakeholders throughout the system.

Examples of systemic CE approaches can be identified in different working fields. In the following, examples are pointed out for vocational training programmes and private sector development programmes.

In a vocational training programme, support of new skills in CE areas could be promoted:

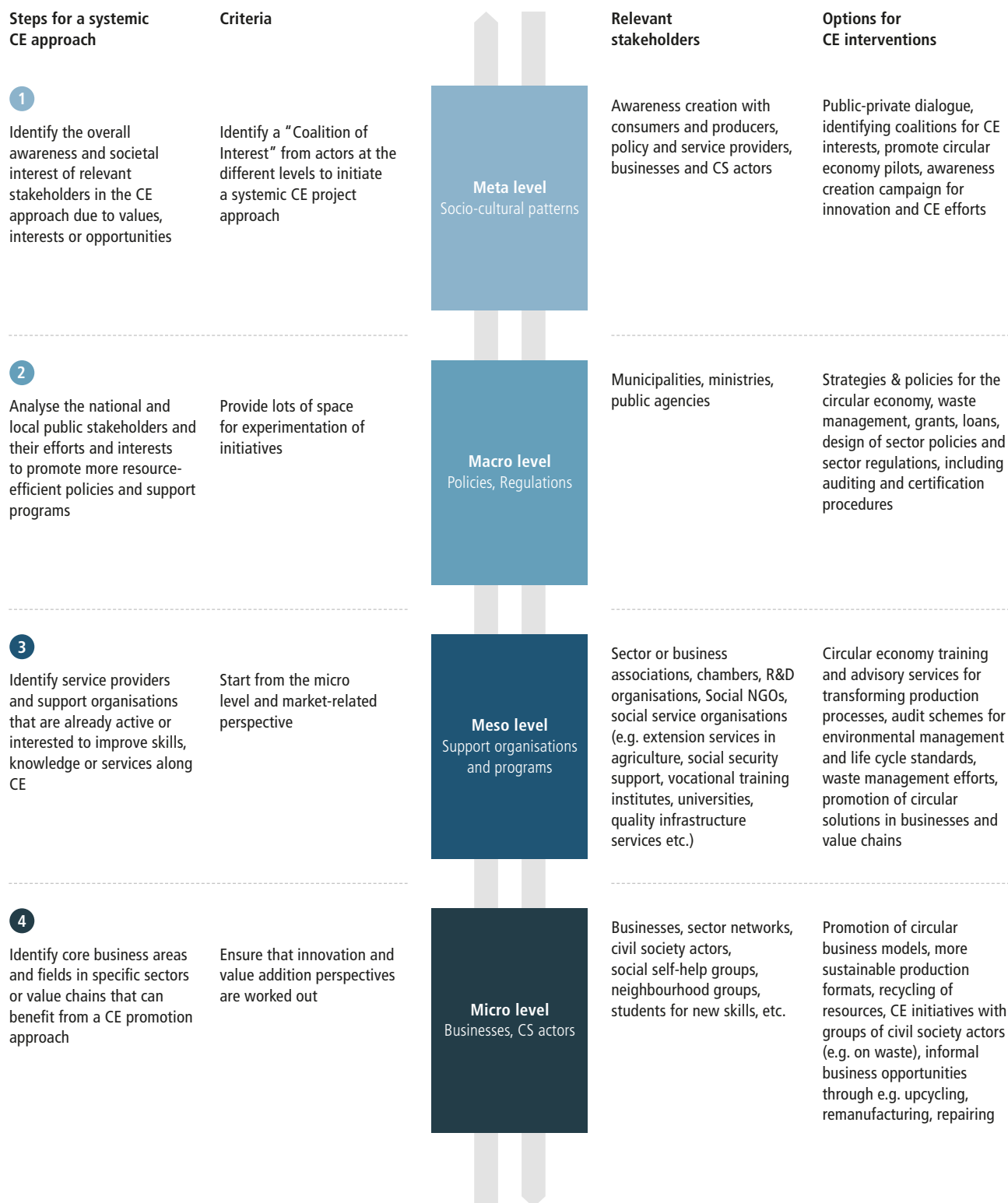
- ▶ At the meso level, for example, by promoting waste management techniques, resource conservation methods, renewable energy technologies, and sustainable production processes. It could also encompass curriculum development on circular design, life cycle assessment, green procurement, and environmental regulations
- ▶ At the micro level supporting CE measures within businesses in relevant sectors, which the vocational training centres already provide or for which they want to provide training
- ▶ At the macro level, it would include circular economy principles into the curricula of vocational training programmes, teacher training and certification programmes, and the promotion of funding programmes as incentives to integrate CE aspects into vocational training institutes
- ▶ At the socio-cultural or meta level, awareness creation activities and public-private dialogue (PPD) will be relevant to raise awareness of the importance of circular economy principles and the role of vocational training in fostering sustainable practices

For private sector development, the following section provides many examples at the different levels.

SDC projects can design a CE-oriented project that specifically promotes circular business models and provides services in certain relevant sectors. A systemic approach oriented towards strengthening the CE would also include strengthening CE skills and competencies in the service sector and respective policy improvement efforts at the local or national level. This could also follow the MSD or LED approach but with a clear focus on CE aspects.

The **value chain approach** and the start of a systemic approach at the micro level are promising for many projects combined with awareness creation efforts and coordination efforts between different ministries responsible for different policy aspects of circularity. Approaching it mainly from a higher sectoral perspective seems less promising because entry points are rather difficult to find. With its direct supplier and buyer-oriented relationship approach, the value chain perspective can better identify concrete market and resource efficiency opportunities. Figure 3 provides steps to start testing the potential for a CE project approach and some initial criteria to consider in designing such a project approach.

Figure 3 Stakeholders, intervention options, steps and interventions for CE complementary project design



- ✓ Micro level: Who is the target group you are working with? Are these business actors, civil society actors, vocational training participants, or specific low-income target groups (see Figure 3)? How far does the CE perspective provide opportunities for these groups of actors?
- ✓ Meso level: What support organisations or service providers are you working with that support the micro level actors (see Figure 2)? How far does the CE perspective provide new service opportunities for these meso organisations, e.g. additional training offers, additional clients, additional demanded services?
- ✓ Policy or macro level: Who are the political actors you are working with at local, regional or national level? How far are CE policy regulations already in place and in line with your policy promotion efforts?
- ✓ Socio-cultural (meta) level: What is the awareness of the relevance of the CE and its societal and economic opportunities? Which organisations and societal groups see it as a relevant issue and can be supported? Who is to be involved in PPD efforts regarding the CE? The meta-level work strongly affects all other levels because it calls for the societal value system regarding CE aspects.

How: Integrating CE aspects in existing projects

Many incremental ways exist to promote CE activities in existing SDC or other donor projects. In the following, this introductory paper will indicate entry points for running projects at each level of the systemic competitiveness framework. The author of this paper is aware that most development projects always try to follow a systemic approach and work at different levels. Nonetheless, looking into each level separately will provide a better opportunity to compare your current activities with options to integrate CE aspects incrementally. The project examples that will also be pointed out in the following section are often also working at different levels. But here we emphasise especially their work related to the specific level which we will explain in the relevant subsection.

Interventions at the micro level

During the past decade, the CE has gained importance at the business and civil society levels. Organisations such as the Ellen MacArthur Foundation have supported circular business models and respective initiatives. In the European Union, CE directives have also pressured businesses to take over more responsibility for their production processes and waste. In the business sector, there are several entry points for CE efforts (see Figure 4). These entry efforts can focus on combining the CE with innovation, resource efficiency, and inclusiveness efforts, integrating marginalised target groups and the informal sector with whole sectors and value chains. Due to the incremental approach, it is necessary to see where the respective project is active and where CE efforts could be added. Many business-level projects begin with a value chain approach to integrate multiple businesses along the chain (see Figure 5).

Figure 4 Entry points at the micro level on CE

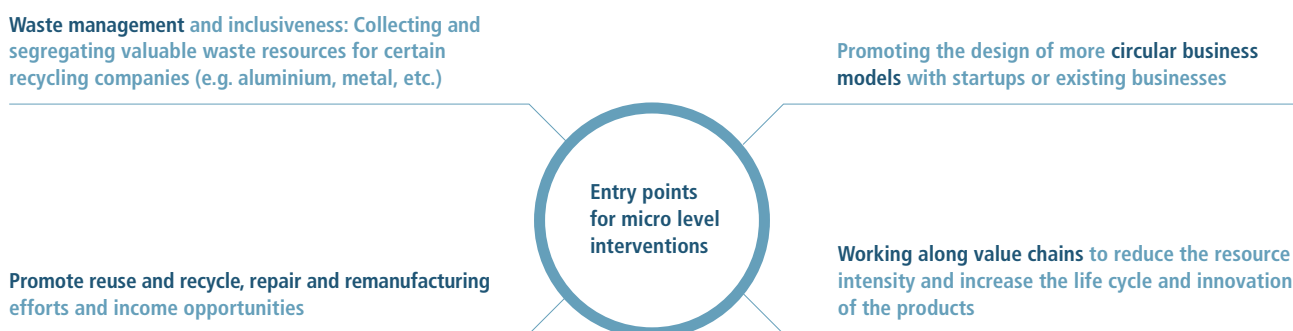
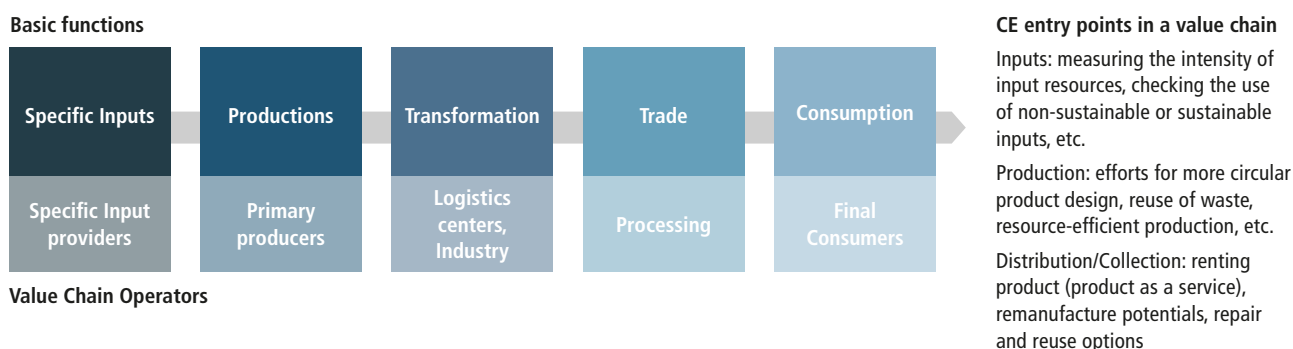


Figure 5 Value chain entry points on the CE



Project examples at the micro level

Recycling of by-products in the agricultural sector: Many agricultural-based promotion efforts are less concerned with using the by-products produced in the basic processing of agricultural products. The RUNRES project, funded by the SDC, works within African countries and city regions. It uses value chains such as coffee, cassava, bananas and vegetables in encouraging the recycling of organic and human waste by implementing and scaling viable and acceptable innovations to transform waste into soil amendments or animal feed to serve as an input for smallholder agricultural production. The work with farmers focuses especially on awareness creation and the demonstration of cost benefits. It also includes skills development efforts along the first steps of the value chain to identify human waste and organic recycling options. According to the project's website, 1,500 tonnes of organised waste has been already recovered and more than 700 tonnes of organic fertilisers have been produced (see runres.ethz.ch).

Strengthen business companies by establishing more low-resource, innovative and environmentally friendly efforts in their production processes, which will provide resource efficiency and innovation benefits. The GIZ project ProUsar in Colombia promotes this approach by working with companies in the textiles, packaging, and electrical and electronic equipment chains. Partners involved are various private sector associations, training and consultancy companies, and, at the national level, a round table on circularity. Thus the work is not only with businesses but also with many support organisations at different levels (see conversapolis.org/programa/prousar).

Checklist questions for project managers for interventions at the micro level

The following checklist questions for project managers should be further elaborated on when designing and steering CE projects:

- ☒ What are the options to promote new economic or socially relevant business models that promote a more circular production model?
- ☒ Where can you potentially use resource efficiency efforts in your chains or sectors?
- ☒ What opportunities are there to support the target group in the R-areas (recycle, repair, redesign, remanufacture etc.)?
- ☒ What knowledge and experience in this respect exist among local/national service providers?
- ☒ What is the market demand for such CE businesses and social solutions?

Scaling Circular Economy in Industrial Parks

The Global Eco-Industrial Parks Programme (GEIPP) Phase II (2024-2028), implemented by UNIDO with funding from SECO, aims to foster sustainable industrial development in Colombia, Indonesia, Peru, South Africa, Ukraine, and Vietnam. The programme promotes circular economy practices in industrial parks, helping industries reduce waste, recycle materials, and adapt to climate change. Building on the groundwork of Phase I, GEIPP II shifts from piloting Eco-Industrial Park (EIP) approaches to scaling and replicating them. By improving resource efficiency and supporting tenant companies in industrial parks, the programme strengthens productivity and resilience while addressing climate challenges.

See [Eco-industrial parks: resource efficiency and industrial symbiosis | UNIDO](#)

Interventions at the meso level

The meso level involves support organisations and services relevant to promoting the businesses or civil society actors at the micro level.

Within the VSD, PSD or MSD projects, the SDC always also involves these meso organisations and efforts to improve the supportive ecosystem around the core target groups. Common partners include business associations, NGOs, knowledge and vocational training organisations or other private and public service providers. Several entry points for the promotion of service and skills competencies can be identified (see Figure 6).

Project examples at the meso level

Enhancing recycling and waste management in the transportation sector: The SDC project Markets for Recycling in Bolivia, implemented by Swisscontact, aims to enhance recycling and waste management within the transportation sector. The project focuses on raising awareness among vehicle owners, companies, and institutions of waste management practices while encouraging green businesses to adopt circular economy models for waste recycling. The supporting organisations and service providers involved in the ecosystem include universities, chambers of industries and commerce and business service providers. It involves raising awareness, designing new service offerings, and developing skills to identify CE business opportunities (see www.swisscontact.org/en/projects/markets-for-recycling-waste-management-in-the-transportation-sector).

Strengthening the environmental performance of service sector SMEs (hotels, restaurants, cafés and mini-marts) is the objective of Swisscontact's Waste to Value project in Laos (co-financed by the SDC). It improves the waste management practices and the development of more circular products, and also involves informal waste pickers to ensure inclusiveness. The relevant meso organisations involved are hotel and restaurant associations and universities as relevant service and support providers (see www.swisscontact.org/en/projects/waste-to-value).

Checklist questions for project managers

- ☒ Who are the service providers and support organisations you are working with?
- ☒ Are they already providing life cycle, green management audits or resource efficiency services?
- ☒ Is there a demand for such services from local businesses, consumers and buyers in the chain?
- ☒ Are there sectors and organisations under specific pressure or that have a specific interest and the potential to use CE service efforts, e.g. to support reducing or recycling of hazardous materials in their sector?
- ☒ What are the options for these meso organisations to increase their service portfolio in a manageable way that also provides new income opportunities?

Figure 6 Entry points at the meso level on the CE

Strengthening competencies and skills in business organisations, clusters and netw

Strengthening circular economy relevant services in recycling, redesign of products, remanufacturing

Strengthening cooperation and coordination between the support organisations on CE aspects

Strengthening research and skills development organisations in providing CE knowledge solutions

Entry points
for meso level
interventions

Interventions at the macro level

The policy level is an important leverage point for promoting the CE locally or nationally. Ministries and regional or local governments play a decisive role in promoting the CE through the design of relevant strategies, regulations, incentive structures and infrastructure investments (see Figure 7).

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Most of SDC projects combine micro-interventions with meso and macro interventions. For projects to consider the CE, it is essential to analyse how macro-level efforts can incorporate CE aspects and how these might influence priorities at other levels of intervention.

The SDC Capacity Building for Low Carbon and Climate Resilient City Development Project (CapaCITIES) has implemented various pilot programmes to reduce greenhouse gas (GHG) emissions in Indian cities. In the first phase, from 2016 to 2019, it made an impact on biogas generation, renewable energy generated, and GHG emissions (see website). It promoted doorstep collection of segregated waste through an intensive community awareness effort and training of municipal staff and civil society actors. It also promoted the design of solid waste treatment plants and a waste management strategy to ensure real implementation efforts www.capacitiesindia.org.

Aligning the regulatory framework for waste management with the EU acquis:

The Circular Economy Project, funded by BMZ and the EU and implemented by GIZ, is focused on aligning Albania with EU circular and waste management directives, including directive-specific implementation plans. A particular focus is on strengthening the institutional capacities of the National Environmental Agency (NEA) and the National Agency of Water Supply (AKUK) in monitoring and enforcing professionalised digital data management services. The project assists in implementing extended producer responsibility schemes for packaging waste and introduces economic instruments to support waste reduction and separation.

Advancing Sustainable E-Waste Recycling Industries

The Sustainable Recycling Industries (SRI) – Phase II (2019-2025), led by Swiss Federal Laboratories for Materials Sciences & Technology (Empa) and funded by SECO works to establish sustainable recycling industries in Colombia, Egypt, Ghana, Peru, and South Africa. The programme focuses on creating favourable conditions for the environmentally and socially responsible management of e-waste and related waste streams. It supports the development of effective policies, ensures fair regulatory frameworks, and promotes professionalization within recycling value chains. Locally tailored solutions address hazardous waste management, while international collaboration strengthens and disseminates best practices. By enabling safe and efficient recycling systems, SRI contributes to the global shift towards sustainable e-waste management.

See sustainable-recycling.org

Figure 7 Entry points at the macro level on the CE

Invest in infrastructure and facilities for waste management, recycling, and resource efficiency, e.g. building and upgrading recycling facilities, composting facilities, material recovery facilities etc

Design of circular economy strategies at local or national level including waste management practices, resource efficiency, product design, manufacturing etc.

Entry points for macro level interventions

Provide economic incentives incl. tax aspects, funding mechanisms for investments etc.

Regulatory measures and rules, standard setting and policies that support circular economy e.g. product labeling, waste prevention, reuse, recycling, and sustainable procurement aspects, strengthening consumer rights

Promote Dialogue with core stakeholders through round tables, conferences etc.

Checklist questions for project managers

- ☒ What are the relevant policy and regulation efforts you are involved in in your current project activities?
- ☒ To what extent are waste or CE considerations made at the policy level, and how are they discussed?
- ☒ What role do waste and CE aspects play in the sectors you are involved in?
- ☒ What is the level of knowledge and skills at the ministry and municipal level (national/local)?
- ☒ What are the main identified bottlenecks in the respective sectors when it comes to waste disposal and recycling efforts and regulations?



Interventions at the meta-level

The meta level can also be interpreted as the level with a transversal influence. Socio-cultural norms and informal rules shape policy design and support organisational orientations and micro-level responsiveness. The orientation towards more resource-efficient and circular production formats also depends on the value systems that drive businesses, civil society actors and consumers. Meta-level activities in many countries start with basic education, project-based learning and school excursions. Higher education promotes awareness creation by increasing green skills and CE skills, media campaigns, leadership programmes, international peer-to-peer learning, and interactive dialogue formats with the public and private civil society sectors (see Figure 7).

Project example at the meta-level

Promoting mass campaigns such as the RACE campaign (Reduction, Awareness, Circular (Solutions), Mass Engagement) for single-use plastic-free in Uttar Pradesh (India). The Lifestyle for Environment (LiFE) movement is an Indian-led global mass movement to protect and preserve the environment which advocates for mindful and deliberate utilisation instead of mindless consumption for individual and community actions. GIZ India supported the Government of Uttar Pradesh with the implementation of the RACE campaign under the project Circular Economy Solutions Preventing Marine Litter in Ecosystems (CES). The RACE campaign included a range of workshops, skills activities, roundtables, and dialogue forums beforehand

and afterwards to ensure follow-up. The campaign was integrated into the efforts of the GIZ project to promote innovative CE solutions, including cooperation, networking and dialogue with the private, civic and public sectors in Uttar Pradesh.

Checklist questions for project managers

- ☒ What organisations and potential partners are highly value-driven, respected in the region where the project is being implemented, and well organised? These meta-level organisations (e.g. environmental movements, NGOs and progressive business networks with a sustainable agenda) can be important supporters of activities at the meta level.
- ☒ With which value drivers are you working at the local, regional or national level?
- ☒ What are your priorities and wishes regarding the shift of mindsets with your intervention?
- ☒ What are or could become relevant entry points in your running projects that also tackle meta level and CE aspects at the meta level (see Figure 2)?

Figure 8 Entry points at the meta level on the CE

Promoting interactive learning formats e.g. via Citizen and Business Science initiatives and community engagement to include them in data collection, implementation of initiatives, monitoring of processes, etc.

Awareness creation through increasing skills and inspirational practice provision (e.g. vocational training, curriculum integration, workshops, seminars, webinars, public awareness campaigns)

International peer-to-peer learning activities and exchange of knowledge and experience with other businesses, meso and macro actors

Storytelling and value creation via media campaigns, including the use of traditional and social media platforms

**Entry points
for meta level
interventions**

Leadership programs with businesses, youth and citizen groups focused on skills development

Challenges and solutions

Promoting the CE in a country, sector or region is a transitional task. It means that most of the efforts that are promoted require a shift from the traditional way of doing things. It also affects not only individual businesses but requires a shift in the supplier and knowledge transfer system. It requires new supporting services, and the incorporation of knowledge and learning. In the following table, some challenges and solutions are mentioned that need to be considered.

Challenge	Solution
CE includes a normative approach . It requires support from relevant stakeholders that see a need and opportunities for shifting traditional ways of production	Make sure you find a coalition of actors that are interested in promoting CE and innovation from the public, private and civil society sector
Transition from traditional way of thinking to new way of thinking: Seeing benefits after all efforts	Emphasis on the opportunities of innovation, reduced resource and energy costs, market opportunities
Lack of available organizations that can provide the necessary skills and capacity building to support CE	Involve leading knowledge organisations and forerunners of businesses from the country and abroad through the creation of (inter)national knowledge networks and peer-to-peer learning approaches
Lack of CE support at governmental level	Start with groups of businesses that see benefits (including resource efficiency aspects, market aspects, etc.) and make transparent their regulation challenges
Lack of a critical mass of businesses already interested in CE aspects	Start with small groups of businesses for sensitisation in the sector. From there, enlarge interested SMEs.

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