1) **Case study template: Hospitality sector**

Partner Name	Drosostalida	*Case Study Number 1 SME*
Case Study Title	Waste minimisation facility and tools in a catering company	
Sector	Food Catering	
Problem / Background / description of case study	One of the largest catering companies in Greece had an issue with their huge waste production. All their waste ended up in landfills and the company sought help to minimise waste. Most waste produced was from packaging and organic from the food preparation.	
Did they consider (modern) consumers behaviour before moving towards CE and waste management? Did consumer behaviour have an impact on them and their operation?	They considered their own environmental behaviour and their waste produced which ended up in landfills.	
Waste management tools / methods applied. *What is their operation process related to food waste? Do they follow specific protocols? Methods? Processes? Etc.*	1.The staff had received training in categorising waste and separating waste. 2. They found it necessary to create a waste station within their facilities to minimise waste and re-use waste. The waste minimisation process consists of 3 stages: a) the first stage: related to the reduction of the volume of recyclable materials and their exploitation as products for sale. For this purpose, the vertical press PEL B1500 was used, with which the recyclable waste per item is compressed and packaged in packages of about 150-200 kg. The produced recyclable packages are bought by a private company at compatible market price. The compression system needs less space for the collection of recyclables and is also cleaner and more organised. b) second stage: The second stage related to the reduction of the volume and weight of the organic waste produced. This was achieved by installing a SUPER COMPACT dehydration unit. The dehydration unit consists of a powerful garbage can, that mashes all the organic waste which, is then led to a centrifuge unit to separate the solid	

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materials from the liquids. The liquids are removed through the drainage system while the solid residue is collected in special containers. In this way the volume and weight of organic waste is reduced from 50% to 70%.
c) Third and last stage: the management of the produced material is led to an automatic composting unit (closed type ROCKET in vessel composter) where immature compost is produced.

Dehydration is a prerequisite process of composting because the shredding process increases the contact surface of the microorganisms, while reducing the moisture content of the waste to 50% which, is ideal for the composting process. When adding organic waste, it is necessary to add a small amount of wood (crushed branches, wood chips or any other form of wood), which is an essential source of carbon for the composting microorganisms.

From the moment the material enters the ROCKET chamber, the composting is done by the aerobic microorganisms. The process is aerial and is complete in 4 states with different temperatures. Temperatures reach up to 80 degrees ensuring the Hygiene of the compost produced from potentially dangerous pathogens.

The final product is delivered in special bags and needs to be left outside for another 2 weeks to mature and be ready for use.

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<tr><td>*Do they have a dedicated team to work with waste management or waste minimisation?*</td><td>

The staff had already received training in selecting and categorising waste. A few employees where trained to use the new waste minimisation facility.

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<tr><td>*Do they track waste manually or through an automated system?*
What are their findings?
What are the benefits?</td><td>

The initial waste was categorised manually.
The waste minimisation facility is handled by several machines and overviewed by computers.

The findings are organic waste is minimised by 50-70%
Biomass can be produced by waste – reuse and recycle waste is achieved

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How did they get the team onboard and work together? *i.e. benefits, reward system, training etc.*	The staff at the catering company received training and a presentation on corporate responsibility and waste management.
What specific training did they receive on waste management and how did they receive it?	It was hands on training specifically designed to use the new facilities and the new machines.
How is circular economy being applied? What can you identify from the case study.	- Behavioural changes of the staff - A complete circular process in place allowing for reuse, recycle of waste - Selection processes - training
Which skills can you (partner) identify as needed for the restaurant (case study) staff to possess to successfully conduct food waste management and minimisation	Technical skills - selection process and categorisation - machine management - technical skills - knowledge of materials and waste management potential - food waste management principles Soft skills - environmental consciousness - circular economy basics - environmental benefits
Resulting benefits: impact on restaurant based on their practices (kg in waste, statistics of food being wasted, minimisation statistics following adoption of CE and waste management etc.)	- reducing the moisture content of the waste to 50% leading to less waste in volume - the volume and weight of organic waste is reduced by 50% to 70% - greener menus – seasonal menus

Can this case study be transferred to small / micro-organisations in the hospitality sector?	Yes, they can cooperate for example, with other neighbouring organisations and use a common infrastructure. They can learn to categorise waste and minimise it
Has collaboration been arranged with local food/service suppliers? If yes, how is this arranged	no
Is this case study national?	Yes
Is this case study innovative? If yes, how?	It follows common processes using technologies in order to complete the tasks at hand. The innovation can possibly be found in the fact that they use a complete cycle of waste management.
Which technologies are used in the case study, if any?	Specific machinery with related software
Can this case study be used in the CE4Food training programme? If yes, which module can it supplement?	Yes, it can. It can be used as a generic case study where trainees can find a complete example of how an SME can recycle and re-use food waste.
Source/Reference	www.ecovrs.com
Website	http://www.ecovrs.com/news/catering_composting/

Other	