The whole idea behind the Oilpulse technology is to “shock” the olives with an electrical pulse. “The brief pulses of a strong electrical field enlarge the pores in the cellular membranes, simplifying the extraction of oil. The electric pulses pass through the olive paste with the handy result of more oil being derived from the same amount of raw material,” says project representative, Matthias Schulz of Technische Universität Berlin. “In addition, punching open the pores of the fruit with an electric pulse makes it simpler to get the best oil from unripe olives,” adds Schulz.

Constructed in May 2011, a pilot plant located in Malagón in central Spain is treating and testing the results of six litres of olive paste per minute. Its successful operation is “vital for an operational prototype,” explains the plant's owner, Aniceto Gómez. “Once proven, the technology will be scaled up to full production levels,” he adds.

Hopes are thus high that Oilpulse technology will be commercialised. However more testing needs to be undertaken. And due to the already high promise shown under Oilpulse project, expected results include an increased virgin olive oil yield, and health benefits such as high antioxidant levels.

In addition, a reduction in olive paste temperatures during the actual processing phase should lead to energy savings. And, according to Schulz, the benefits of the technology could even be applied to the mechanical extraction of other edible oils and oils for bio-diesel production.

Started in March 2010, Oilpulse project is coordinated by the Technische Universitäten Berlin, Germany and has industry and research partners in Italy, Spain and Turkey.

Olive oil is an important product of the European agro-alimentary sector. SME’s across the European Union (EU) produce some 2 million tonnes of virgin olive oil each year and 800,000 people are employed in the sector.