

*From the feasibility study to the production plant*

## Dry material processing

Glatt's Technology Center in Weimar provides units and systems of different capacities for the production of granules and pellets from powders or solid-containing liquids. In the last 12 months alone, more than 120 customers from 17 countries used their advanced equipment.



<b>spray granulation</b> for compact granules from liquids		
<b>agglomeration</b> for dust-free instant products from powders		
<b>coating</b> for functionalisation of particles: e.g. storage stability, hygroscopicity, flavour, smell		
<b>encapsulation</b> for stabilisation of sensitive substances		

*Using advanced equipment in Weimar, it is possible to develop innovative product forms by feasibility studies or to optimise the properties of or the production processes for already established products*

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**E**stablished in 1991, Glatt's Technology Center was vastly extended in 2009 and is future-oriented equipped with advanced systems. In the middle of all process engineering activities are fluid and spouted bed technologies for the production of innovative products for all powder processing industries. The focus

is on continuous processes, but also batch processes are offered. After two years of successful operation under the new conditions, all expectations were exceeded. Engineers from Weimar were always one step ahead when it came to the processing of powdery substances into attractive, dust-free, easy dosage and easily soluble granules and agglomerates for food, detergents, fertilisers, pesticides, pharmaceuticals and many other applications. Its combination of process diversity and advanced apparatuses has made the Glatt competence centre an internationally recognised hub for the above processes.

### Great variety of applications

Granules can be used in a great variety of applications. Wash-active substances such as surfactants and enzymes are granulated with Glatt technologies in the detergent industry. Further, plant protection products such as herbicides, fungicides and pesticides are another field of application for fluid bed granulation. Among others, these applications require dustlessness, pourability and good dosability. It is also necessary that such products are quickly redispersible in liquids.

For the production of feedstuff, encapsulation processes embedding finest droplets of essential oils in matrix granules are used. In this way, long-term stable particles are produced which can be easily processed. Or: For the purpose of better handling, chemicals such as calcium chloride and water glass are often granulated. The table shows the most common basic processes for granulation and coating: Several pilot and production scale plants are available for scale up from laboratory tests in the Technology Center. A certification as per ISO 2010:9001 and an established HACCP system for the contract manufacturing unit underline Glatt's quality standards. The equipment of the Weimar Technology Center ranges from latest fluid bed and spouted bed plants up to complementary apparatuses such as high-shear granulators, extruders, pelletisers and tablet presses. The laboratory, which was also upgraded, uses a great variety of devices for the determination of product properties including digital microscopy, particle size and shape distribution (laser diffraction), thermoanalysis (TGA, DSC), sorption and desorption, abrasion, bulk density, moisture content as well as fluid properties such as particle size or droplet distribution in suspensions or emulsions, fluid rheology, pH value and conductivity.

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