The business environment that surrounds needle roller bearing products is seeing an ongoing expansion in demand with automatic transmission (AT) systems, while diverse sources of power, as typified by a shift toward electrification and EVs, are driving higher performance demands for parts that are lighter, more space saving, faster and quieter. Moreover, customer development periods are becoming shorter, and that requires technologies and structures that can keep pace with such development speed.

To address such changing needs in a timely manner we established the Needle Development Center in 2018, our seventh R&D center in Japan and 16th worldwide. In the No. 3 Building at our newly constructed Haruna Plant (Gunma, Japan) we have brought together product design, press technology, die development, mass production method development, prototype processing, as well as evaluation and inspection functions. On that same floor we have developed an environment in which we can move forward on development through close collaboration between the design and development divisions, together with the manufacturing engineering divisions.

**Establishment of the Needle Development Center**

**A Fusion of Product Technology and Manufacturing Engineering to Address New Needs**

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**Needle bearing demand expansion for multistep AT**

- (eight or more speeds)

**Further raising needle competitiveness**

**Expanding the product range that addresses new needs**

**Timely introduction of new products to the market**

**Advance development technology**

- Collaboration with advance development divisions
- Propose press technology application products that anticipate needs

**Plants**

- Collaboration with manufacturing technologies at each plant
- Bring manufacture of externally produced parts in-house
- Support for early prototyping

**New product development structure**

"Needle Development Center"

- Product design
- Press technology
- Die development
- Prototype processing
- Production method development
- Evaluation and inspection

**Core Technology Manufacturing Engineering**

- Realize further advanced press technology application products

**Each product’s technology division**

- Steadily taking an early approach to the needs/seeds of press technology application products

**Fusion of product technology and manufacturing engineering**

**Aim**

- Boost new product development capability
- Raise development speed

- Enhance mass manufacturing engineering capabilities
- Develop new production method

- Significantly shorten prototype delivery

**Product introduction**

**Low-noise thrust needle roller bearing**

This bearing contributes to creating a more comfortable driving experience when using the electric motor in EVs and in plug-in hybrid vehicles (PHVs).