



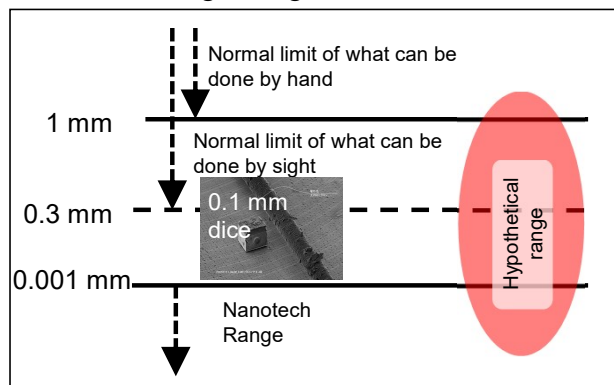
1. Purport

The strength of Japan’s manufacturing industry is in its on-site capabilities, which are supported by regional small-to-mid size manufacturers. What’s able to maximize these capabilities and surmount the severe competition in the international market is the 0.001 mm–1 mm range. This is known as the “blank engineering range” among the systematized techniques of today’s manufacturing industry. In our manufacturing association, companies with strength in this micro manufacturing range for the field of formed products (material, machining, molding, deformation processing, surface treatments, assembly, joining, 3D printing, inspection, etc.) are at the center of paving the way for new manufacturing frontiers.

2. Main Activities

- Assemblies where information can be exchanged between member companies, major manufacturers, colleges, laboratories, etc.
- Sponsorship of engineering problem/micro manufacturing engineering contests in coordination with colleges and laboratories
- Joint exhibition at micro manufacturing expositions
- Transmission of information on member companies and on companies in facility industry that make contributions to the micro manufacturing industry
- Creation of plans to support the industry through coordination with public institutions and both domestic and foreign industry associations and more

3. The Association’s Hypothesized Micro Manufacturing Range



In this industry, it’s required that the object being worked on is seen and can be moved freely. To put it another way, an object that cannot be seen or cannot be moved freely will be very difficult to work with in manufacturing operations like assembly and normal manufacturing. The micro manufacturing range is squarely in this boundary where the object can be seen (with the naked eye) and moved freely.



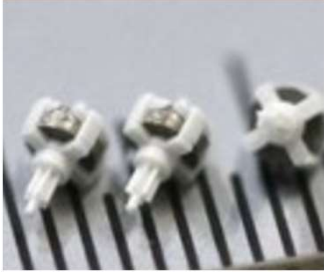
4. Association Information

President: hakkai Inc. President Seki
 Managing Secretary: Micro Cutting R and D, Inc. Uchida

Executive Office: NC Network Co., Ltd. Kanazawa, Ishikawa
 UM Bldg. 8F, 14-5 Higashi-Ueno 1-chome, Taito-ku, Tokyo,
 110-0015, Japan NC Network Co., Ltd.,
 TEL : (+81) 03-6284-3093 / FAX : (+81) 03-6284-3081
 E-Mail : Info-mbisai@nc-net.or.jp

Examples of micromachining

Insert molding



Product name: Rotor Gear
 Diameter : 1.45mm
 Module : 0.0535
 Weight : 0.001g
 Manufacturer : hakkai inc.

Snow crystal forming



Product name: Snow Crystal
 Diameter : 1.00mm
 Thinness : 0.04mm
 Weight : 0.0001g
 Material : POM
 Manufacturer : hakkai inc.

Micro manufacturing



Material : SUS316L
 Manufacturer:
 CASTEM Co.,Ltd.

Metal injection sintering



Product name : Lamborghini
 Material : 6Al4VTi
 Manufacturer :
 CASTEM Co.,Ltd.

0.025 module gear



Product name: gear
 Module : 0.025
 Manufacturer: Sayama Mold
 Manufacturing Co., Ltd.

0.08mm PITCH CONNECTOR



Product name: PITCH CONNECTOR
 Size : W12.2mm,H3.5mm,D0.6mm
 Weight : 0.029g
 Material : LCP
 Manufacturer : Sayama Mold
 Manufacturing Co., Ltd.

Extra fine pin



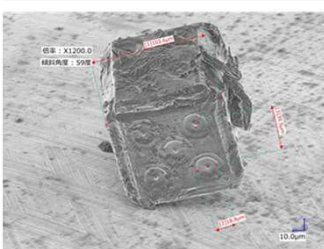
Product name: Extra fine pin
 Size : 0.03mm
 Manufacturer:
 WORKS Co.,Ltd.

Micro cutting



Product name:
 Microneedle array mold
 Diameter : Shape bottomφ0.45
 Size : H0.65mm 400 needles
 Material : SUS304
 Manufacturer : WORKS Co.,Ltd.

0.1mm Metal cutting dice



Product name : 0.1mm dice
 Size : 0.1mm square
 Weight : 0.0000059g
 Material : Brass
 Knife : NS TOOL CO.,LTD.
 Manufacturer :
 IRISO SEIMITSU Co., Ltd.

0.1mm Dice gold plated plate



Product name:
 0.1mm dice gold plated plate
 Size : 0.1mm square
 Material : Brass
 Plating : Au plating
 Manufacturer :
 IRISO SEIMITSU Co., Ltd.