

March 17th 2011

Dear Customer,

Following the devastating events of last Friday in the North East region of Japan there is, quite understandably, a great deal of concern and speculation regarding the possible impact on electronic component availability and supply. Since first hearing about the earthquake we have been in regular contact with all of our relevant suppliers, on this specific issue, and have been receiving daily updates. As the manufacturers with plants in the stricken areas are able to more accurately assess the damage and the likely impact on their output, reliable information is now emerging and we therefore feel that we have sufficient details to pass on to our customers. Going forward, we intend to remain in close communication with our suppliers and continue to update you in a series of bulletins such as this.

Clearly with the situation remaining unstable, as a result of the situation at Fukushima 1, we are not yet in a position to comment with any degree of certainty about specific components, but we hope that in the meantime you will find the following general update useful and in many areas re-assuring.

Japan is still a significant producer of semiconductor devices (although much electronic component production has transferred to lower cost regions). In addition to memory products such as NAND flash, Japan is also the largest supplier of discrete devices, including such products as power MOSFETs. NAND flash is a key component for many products and Japan produces around 40% of the worlds output. However the largest supplier, Toshiba, has its NAND fabs at Yokkaichi, south of Tokyo and 1,000 km from where the earthquake was at its worst and where the tsunami came ashore. Nonetheless they were subject to a 'brief shutdown' but are now back in production. It is believed that following the current damage assessment process, most companies are likely to resume production once the electricity supply is restored and reliable.

Infrastructure services such as fuel, electricity, gases, water, chemicals and logistics are still being affected across most, if not all of Japan. Coupled with at least one of northeastern Japan's primary nuclear power plants being out of action, there will be a significant impact on power supplies in the region. The timescales for a return to normality outside of the immediately affected area are currently not clear, but in the past we have seen even short disruptions in the supply chain lead to significant price increases although usually only for a limited period.

Currently there are over 100 fabs in Japan and specific information on 'what is produced where' is variable in its completeness. It is understood that Renesas, a major microcontroller supplier, seems to have been impacted the most and has temporarily shut down production at seven of its 22 factories in Japan. However, at least one of these factories is already beginning its start-up procedures to recommence manufacturing. Texas Instruments suffered substantial damage at their Miho facility 40 miles northeast of Tokyo which produces about 10 percent of its total output.

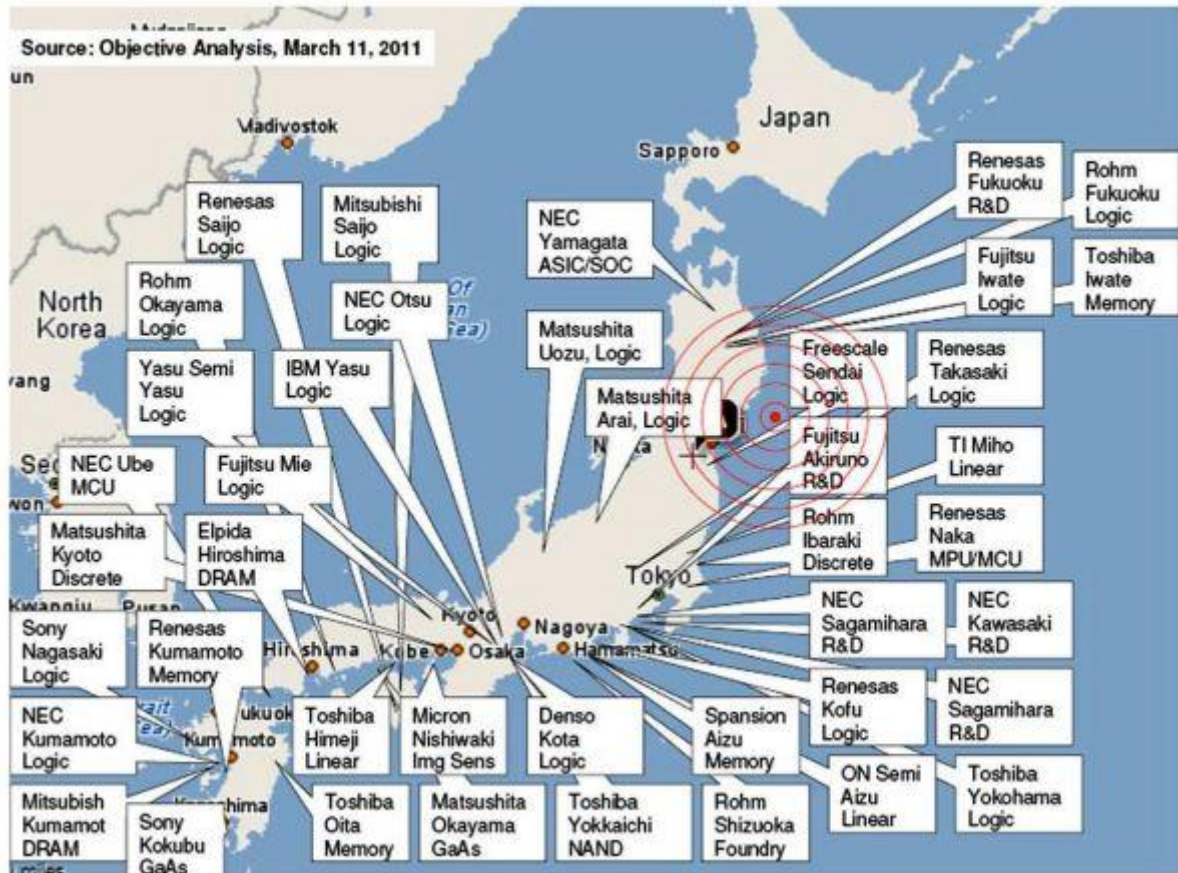
More than a third of this relates to DLP and the remainder is Analog. Operation is not expected to resume here until May with full production returning in mid-July, which would indicate full shipment capability in September. However, TI has already identified alternate manufacturing sites for about 60 percent of Miho's wafer production. TI's fab in Aizu-wakamatsu, about 150 miles north of Tokyo, was also damaged in the earthquake, though equipment there is already being re-started and full production is estimated by mid-April, assuming a stable power supply. The company's third fab in Hiji, about 500 miles south of Tokyo, was undamaged and is currently running at normal capacity.

In addition to components Japan is a key producer of silicon wafers. ShinEtsu and SUMCO both maintain facilities in Japan and supply a significant portion of the silicon wafers used in the worldwide production of semiconductors. We understand that wafer production at some facilities has already resumed as the companies work around the power cuts. Indeed, many of the large semiconductor manufacturers have released statements indicating no issues relating to silicon wafer supplies.

It should be noted that whilst Japan produces around 20-25% of world IC production, other countries are also very significant producers; Korea for example produces around 20% of world production (90% being DRAM which represents over 60% of the world total). Similarly, Taiwan which produces most of the world's advanced logic and SoCs, on behalf of the fabless firms such as Qualcomm, Broadcom, Marvell, MediaTek, Nvidia and Xilinx, together with additional fabs for companies such as TI, Renesas, ST, Infineon, NXP and Freescale.

Many customers have asked us what preventative actions they should take, including forward purchasing parts. Our honest opinion at this time is that it is impossible to select out any sort of definitive list of components that might be affected, and therefore the only 'safe' option would be to forward order practically every single component. Even in 'normal' times this is likely to be an impossible and impractical task – but with supply chains already stretched and the additional panic buying that may result from the disaster – we do not believe realistically that we will achieve any benefit from doing this, indeed we may exacerbate an already tricky situation.

In summary, the affected area is not a major industrial region; it is primarily rural and agriculturally based and responsible for around only 8% of Japan's GDP. The major semiconductor manufacturing areas are located south of Tokyo (see map below) and are largely unaffected by the earthquake or Tsunami. Furthermore, it is significant that a number of plants that were shut down for damage assessment are already being re-started. Whilst it is currently impossible to assess the immediate impact on our supply chains, we are confident that the Japanese nation, and indeed its global partners are working tirelessly to stabilise the situation and a clearer picture will emerge over the next week or two.



In the meantime we have included in the attached spreadsheet links to the web sites of our key component manufacturers which, where appropriate, contain their latest statements regarding the situation, which you may find useful.

As mentioned above, we will keep you informed via bulletins such as this and, of course, directly via your Account Manager. If at any time you would like to discuss this further with us, please do not hesitate to contact anyone of us either by phone or email.

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