At IMP we challenge conventional sample processing. We strive to improve health and safety for operators while increasing efficiency, throughput and turnaround times and increasing quality (precision and accuracy) of sample processing systems. To this end IMP Automation in conjunction with Herzog has developed a high speed, high throughput fusion systems to produce quality XRF beads. This system is typically attached to an automatic sample preparation system as it is designed to manufacture a large number of high quality XRF fused beads quickly and reliably. The instrument is known as a HAG 4, 6 or 8 and can produce between 600 and 1000 fused beads over 24 hours with minimal input by human operators. Once the bead is manufactured it is sent automatically to the XRF: typically a high speed simultaneous instrument.

Thus, a HAG system is ideal for commercial laboratories and mining operations that need to analyse a large number samples daily. This technology has been accepted readily by Australian iron ore mining companies and the large commercial laboratories that service the Australian mining industry with 23 systems in the field in Western Australia alone.

Automating the manufacture of a large number of fused beads has several key advantages when compared to manual laboratories. The system is more efficient; less people are required to work in the laboratory than if the same number of beads are manually prepared. Improved health and safety as operators are not required to perform tedious and potentially dangerous tasks such as weighing out flux, cleaning crucibles, pouring hot molten glass and handling glass beads. Improved precision and accuracy as well as eliminating sample mix-ups that often occur in manual laboratories. This paper, drawing on information supplied by a customer, will also demonstrate that that the HAG system will produce a higher quality sample than is typically produced when manufactured using a manual or semi-automatic process. It will also focus on the first project in North America to utilise this technology and demonstrate the advantages gained.