**Introduction**

- Hospital associated infections are a serious and life threatening issue in the United States.
- Luer caps help prevent hospital infections by disinfecting needleless access sites on patient catheters.
- The PasCal is a semi-automated **Quality Assurance** device used to validate the integrity of a foil seal on a luer cap using destructive testing for statistical modeling.

**Problem**

- The Luer cap manufacturer is producing over 1 million caps per month.
- Disinfecting fluid is volatile and is retained by a foil seal for up to 3 years.
- Loss of the fluid could result in hospital associated infections and death.
- Luer caps are exposed to various external forces after manufacturing such as sterilization, shipping, handling, and vibration.
- Pressure leak-down test measures do not currently exist for this product.

**Solution**

The PasCal is a self contained device that directly validates the foil seal on Luer caps. The data generated by this device adds to existing quality assurance statistical models.

**Leak Down Test**

- The PasCal performs pressure tests at user selectable pressures through mechatronic inlet control.
- Potential manufacturing failure modes appear as different leak-down curves.