

# NiV Separation System: next generation automated radiochemical separation

NATIONAL NUCLEAR  
LABORATORY



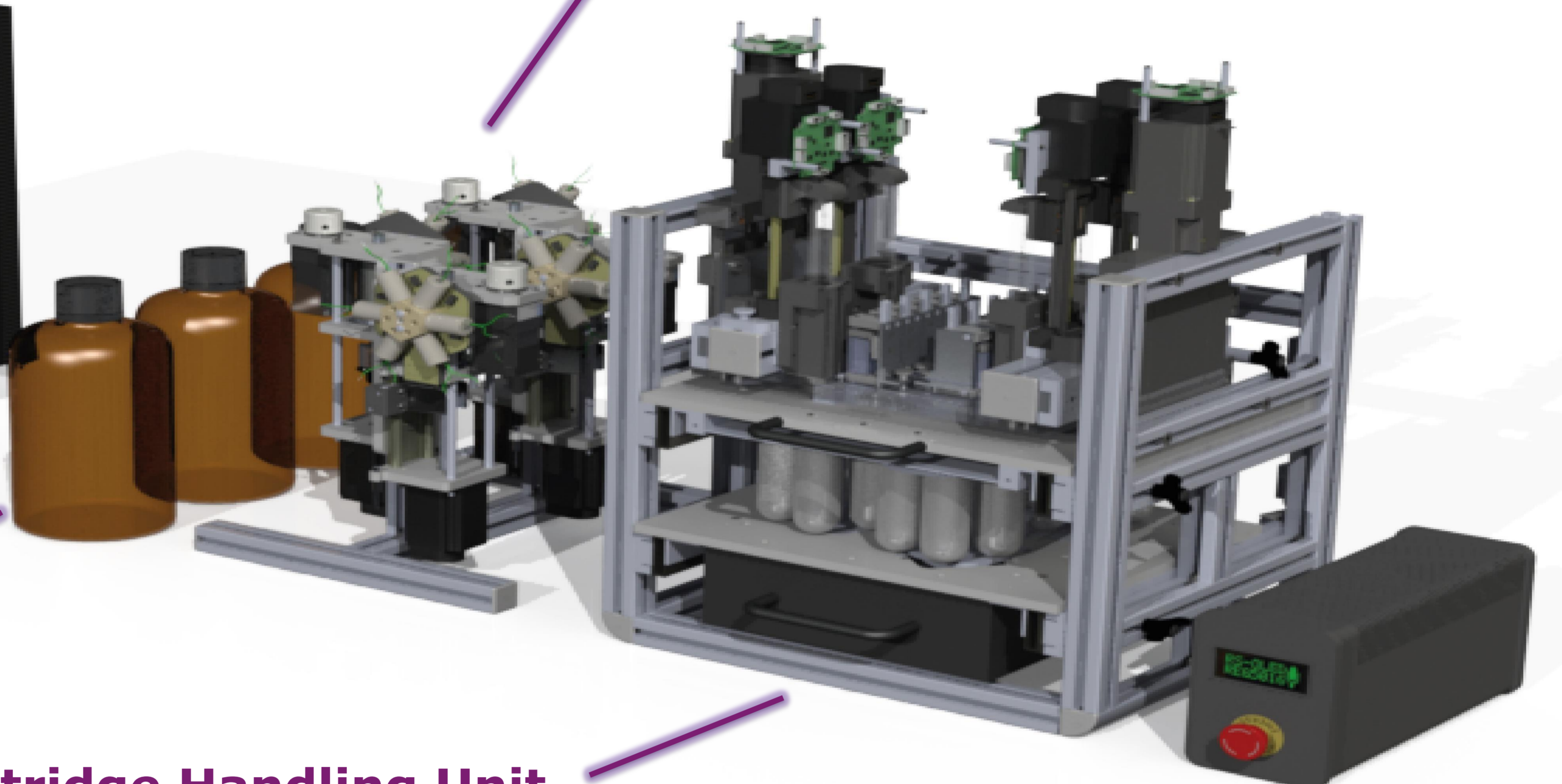
## User Interface

Protocol designer/Operator user interface



## Flow Injection Modules

Column eluent mixing and delivery modules



## Stock Reagents

Reagents mixed fresh from stock

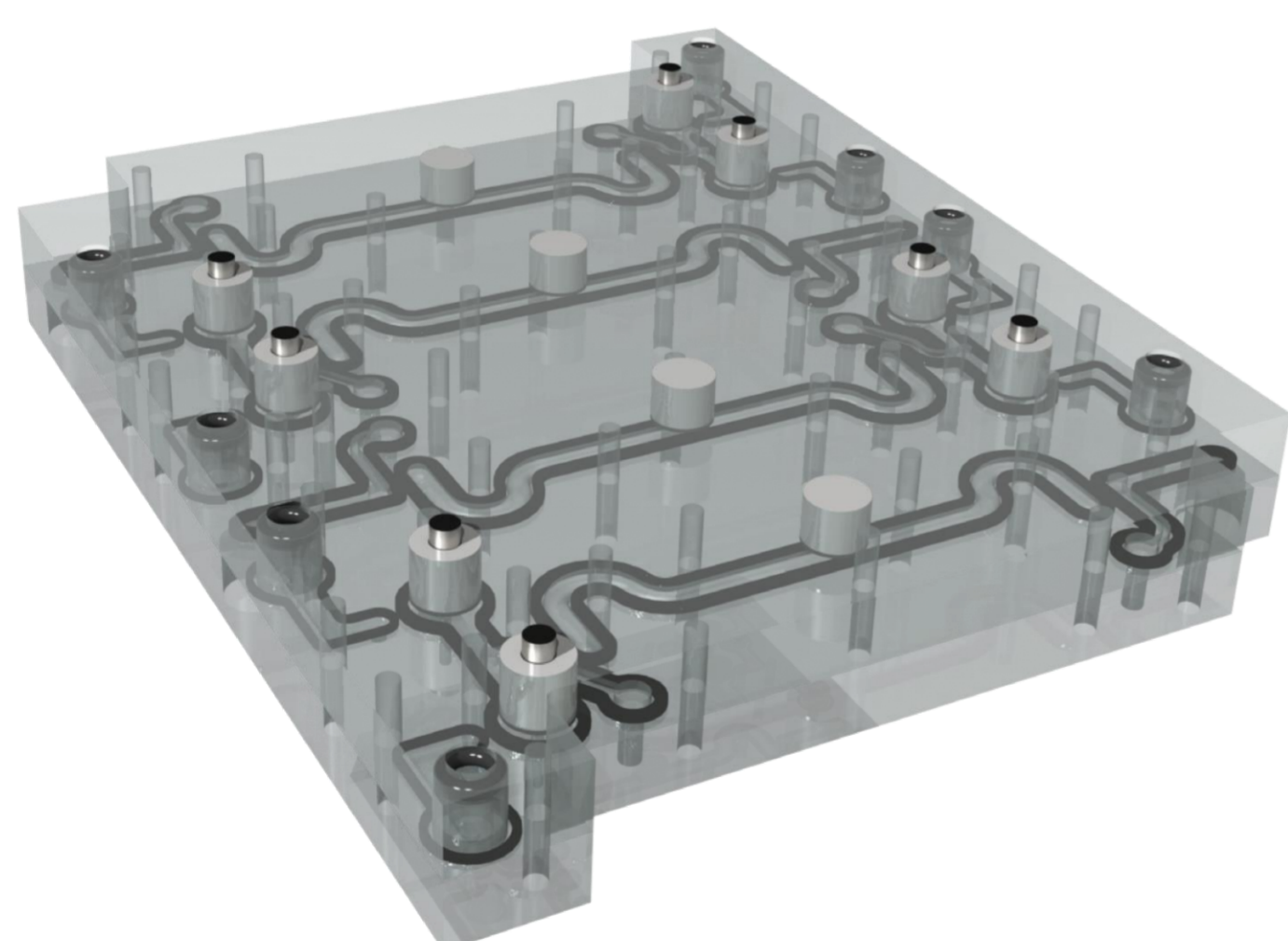


## Cartridge Handling Unit

Automated unit for configuring and manipulating the columns as well as fraction collection

## Case Study

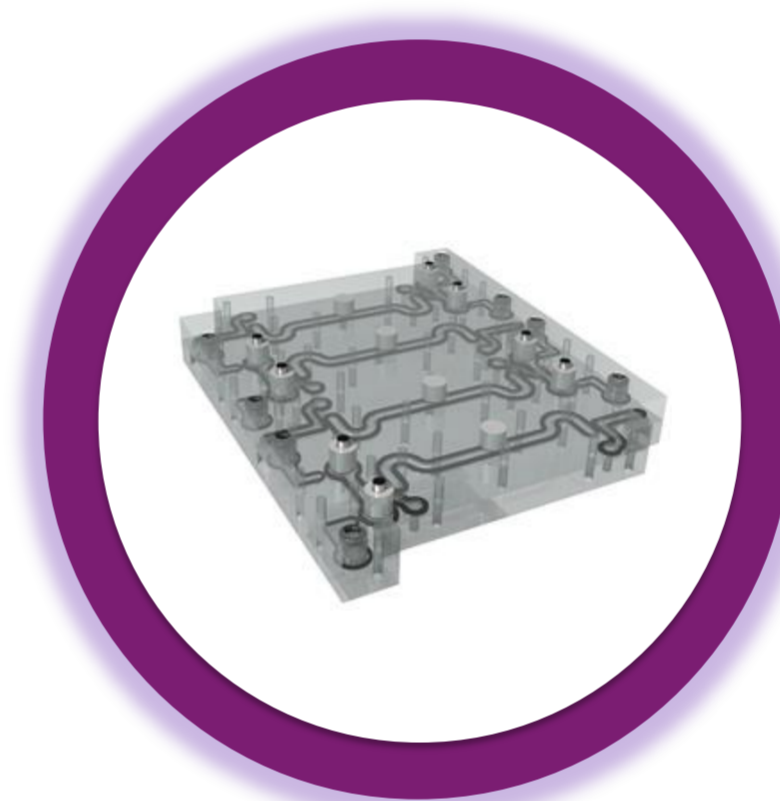
The Sr and Pu/Am chip technology have been shown to work for real eluents arising from a nuclear licensed site. Analysis was carried out for Sr-90, Pu-238, Pu-239/240 and Am-241 with results in agreement with those obtained by traditional methods.



The separation yields were high and the spectra free from interferences. This work was carried out by NNL at their Preston Laboratory using equipment and separation chips provided by NiV Ltd. It showed that the NiV Separator system, using technology licensed from NNL, is capable of isolating target radionuclides with faster separation times, less waste and equivalent yields to those achieved by standard manual separation methods.

## Collaboration & Partnership

MicroLab Devices & National Nuclear Laboratory have collaborated via two Innovate UK funded projects to develop and further this technology with additional support provided by Sellafield Ltd. Nuclear Innovations Limited (NiV Ltd) is a newly accredited ISO9001 business entity formed to commercialise the technology. We look forward to working with you.



## Simple

Fully automated,  
Compact design,  
Cartridge based columns,  
One touch operation.



## Safer

Reduced operator dose uptake,  
Improved chemical management.



## Faster

Reduced separation time increases throughput,  
Parallel separation,  
Free up technicians' time.



## Accurate

Precise,  
Repeatable,  
Accurate,  
Less repeats.

