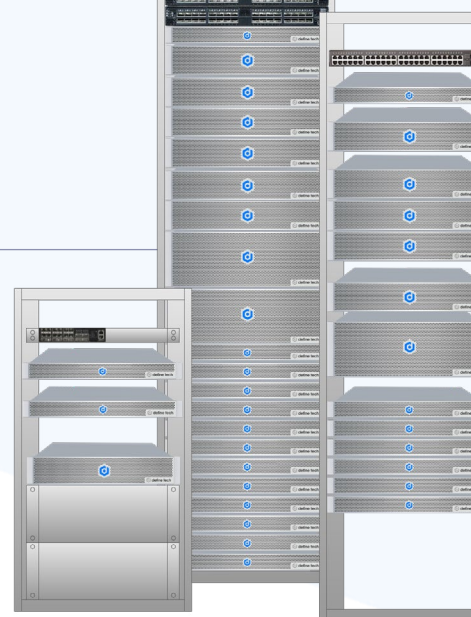


# LIFE SCIENCE CLUSTER

## TURNKEY SOLUTION POWERED BY ICC HARDWARE AND LMX CLOUD SOFTWARE



**OUR LONG HISTORY IN ASSISTING RESEARCH TEAMS WITH HARDWARE, SOFTWARE AND APPLICATION-OPTIMISATION REQUIREMENTS, MEANS THAT DEFINE TECH IS WELL-PLACED IN DELIVERING THE RIGHT SOLUTION AT THE RIGHT COST, ENSURING YOUR ORGANISATIONS ONGOING COMPETITIVENESS IN THE FIELD OF LIFE SCIENCE.**

### WHAT IS IT?

Our Turnkey, LMX Life Science Cluster Solution is built around the latest and most powerful server architecture available on the market. Our expert team has designed low, medium and high spec cluster solutions, optimised for life science workloads including genome sequencing, data analytics, drug development and more. .

When developing a turnkey cluster solution, we adopt a layered approach. Starting with the end user requirements at an application level and working down the stack to the hardware that will ultimately deliver the resources. The goal of our software is to plug the gap between end user expectancy, and what's provided by the hardware.

### GPU ACCELERATION

Our Turnkey Cluster solutions offer up to 8x NVIDIA A100 GPUs, delivering unprecedented compute performance to aid the discovery of new drugs, uncover genetic mutations to better fight disease, and drive healthcare innovation.

### NVME STORAGE

The NVMe storage block comes pre-integrated with WekaFS, a modern file system that accelerates the data pipeline, whether it is next-generation sequencing, Microscopy or bio-imaging, lowers the cost of research, and keeps data secure.

### COMPUTE

We offer the latest generation CPU options from industry veterans AMD, built to handle large scientific and engineering datasets with top performance – ideal for HPC workloads, compute-intensive models and analysis techniques.



### OUR BRANDS

Building upon ICC's expertise in delivering market-leading hardware and software solutions, Define Tech will extend ICC's reach to now support partners, and customers, on a global basis.



INTERNATIONAL  
COMPUTER CONCEPTS

## INTERCONNECT

High Performance clusters require flexible, high-speed connections. NVIDIA Mellanox interconnect accelerates and offloads data transfers to ensure compute resources never "go hungry" and simplify infrastructure automation so applications run faster.

## LMX SOFTWARE

Users can login to the cluster via our easy-to-use, API-driven interface and simply request the hardware resources that he or she requires to run their desired application. LMX Cloud handles the provisioning, OS deployment, application configuration, scheduling, telemetry and monitoring and presents the user with an environment that they know and are familiar with.

## APPLICATION REPOSITORY

Our built-in software application repository is a portfolio of thousands of containerised life-science frame-works, applications and pipeline analytics tools that come pre-integrated and ready to run.

## AI-OPTIMISED

Our platform includes hpc-optimised capabilities such as secure dedicated clusters that can support collaborative research, virtualised GPU's for accelerating analytical workloads (eg. Genomics pipelines) , cloud-native workstations for high-resolution image analysis as well as the integration of AI technologies such as Kubernetes, and Spark/Hail for GATK analysis.

### Low Spec

- 1x NVIDIA SN2010 Switch
- 1x Deployment Node
- 1x NVIDIA GPU Node
- 1x Hyper-Converged Node
- LMX Cloud Software

### Medium Spec

- 1x NVIDIA SN2410 Switch
- 1x Deployment Node
- 1x Compute Node
- 3x Controller Nodes
- 1x Weka Storage Node
- 1x NVIDIA GPU Node
- 6x Ceph Storage Nodes
- LMX Cloud Software

### High Spec Cloud

- 1x NVIDIA SN2700 Switch
- 1x Deployment Node
- 1x Compute Node
- 3x Controller Nodes
- 2x Weka Storage Node
- 2x NVIDIA GPU Node
- 12x Ceph Storage Nodes
- LMX Cloud Software

## USE CASES



**GENOME SEQUENCING**



**CRYO-ELECTRON MICROSCOPY**



**MOLECULAR DYNAMICS**



**DRUG DISCOVERY**



**MEDICAL IMAGING**



**DISEASE RESEARCH**

For pricing or to discuss your requirements: