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L3MATRIX
LARGE, LOW POWER AND LOW COST DATA CENTRES

Research and Innovation action
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D7.2 – Project Promotinal Video

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Project Information

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PU = Public ; PP = Restricted to other programme participants (including the Commission Services) ; RE = Restricted to a group specified by the consortium (including the Commission Services) ; CO = Confidential, only for members of the consortium (including the Commission Services)

Table of Contents

1 Audience

This document is public.

2 Executive Summary

The video is aimed at a general public with some technical background, however it should also be able to be used as a pitcher for the project at technical conferences and/or exhibitions It's aim is to be eye-catching and at the same time informative.

3 Video Structure

The video has 7 sections:

3.1 Section 1 – Introduction (00:00-00:23)

The L3MATRIX project is introduced as an European project.

The voice-over for section one is as follows:

- L3MATRIX is a European project that will enable large scale, low power and low cost data centers.

Figure 1 Snap-shot at time 00:1 including the 3D animated logo.

3.2 Section 2 – Motivation scene 1 (00:23-00:59)

The motivation of the project goals are introduced.

The voice-over for the section is as follows:

- Cloud storage and computing, big data analytics and social media are driving the need for higher bandwidth communications inside data centers, leading to a tremendous increase in connectivity between servers.
- But the data center capacity is limited by the number of in and outputs, the switch ASIC radix, in terms of power and scale.
- These trends require massive increase in switching capabilities; however, the current technology is rapidly reaching its limit.

Figure 2 Snap-shot at 00:32 showing the general trend in global data traffic.

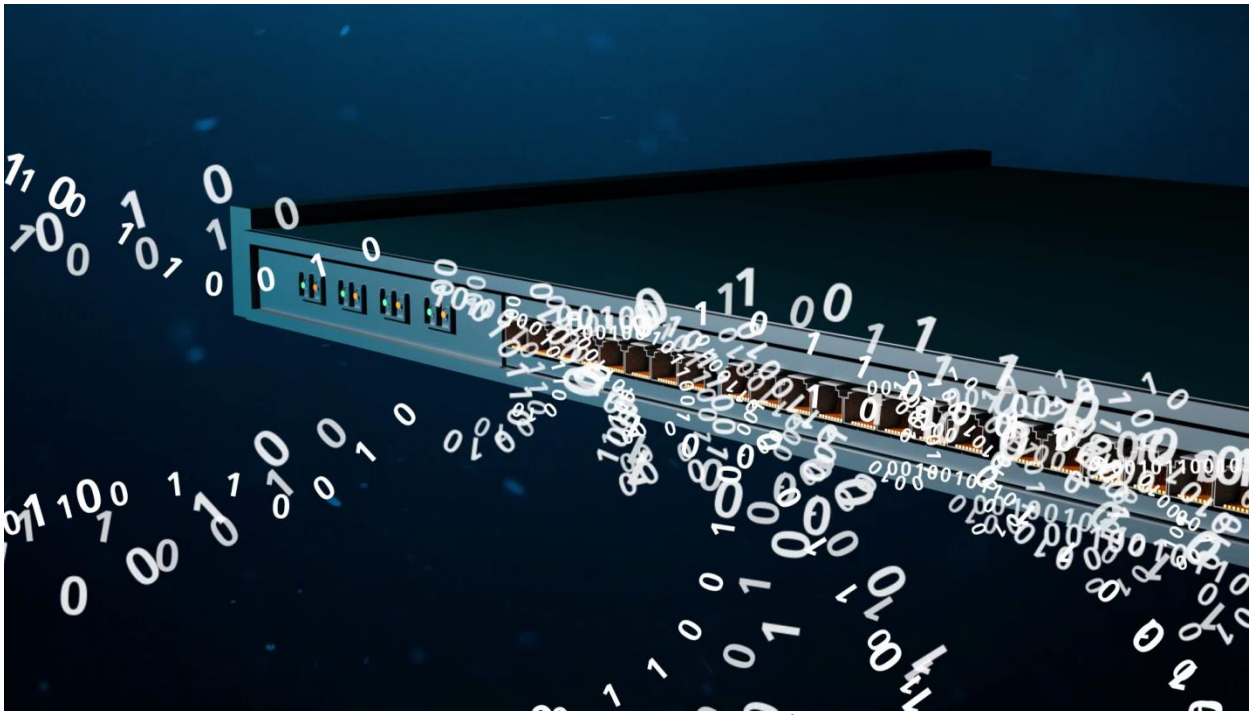

Figure 3 Snap-shot at 00:58 showing a graphical demonstration of the limitation in current data centers

3.3 Section 3 – Motivation scene 2 (00:59-01:28)

The section introduces optical connectivity in data centres.

The voice-over for the section is as follows:

- The speed has gone so high that conventional copper as a medium of data communication now reaches its limits after only 2 meters due to high losses.
- Rack-to-rack and intra-data center connectivity must hence be carried out using optical fiber links.

- What if we could have a switch that could process lots of inputs and outputs, while fulfilling the 3 benchmarks for data center deployment: COST, POWER and PERFORMANCE?

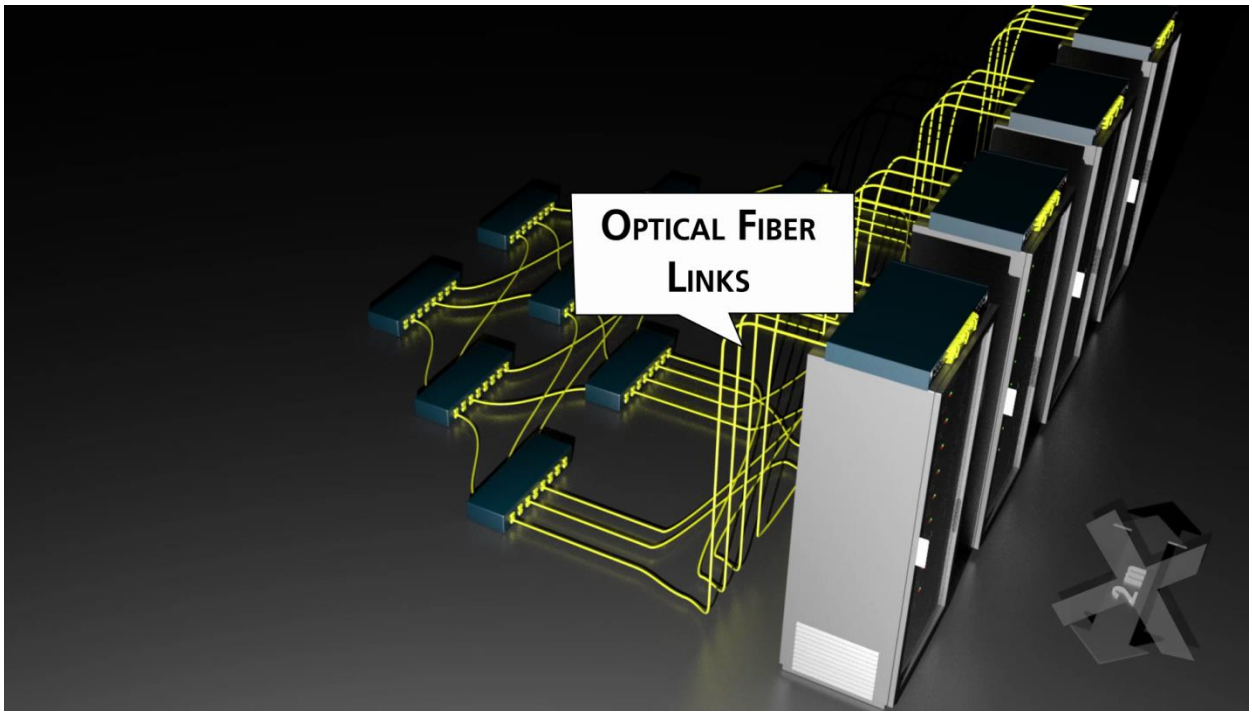

Figure 4 Snap-shot at 01:13 showing a graphical representation of the limitation of copper in data centre deployment.

3.4 Section 4 – L3MATRIX (01:28-01:47)

The 4th section introduces L3MATRIX.

The voice-over for the section is as follows:

- L3MATRIX will provide switching technology enabling; next generation data centers (large scale), a power efficiency of only 3pJ/bit [pico Joule per bit] (low power) and a better cost/benefit ratio (low cost)

3.5 Section 5 – The L3MATRIX solution (01:47-01:58)

The 5th section introduces L3MATRIX technology.

The voice-over for the section is as follows:

- This will be achieved using future-proof mass-production technology such as Silicon Photonics together with high performance electronics and innovative integrated lasers.

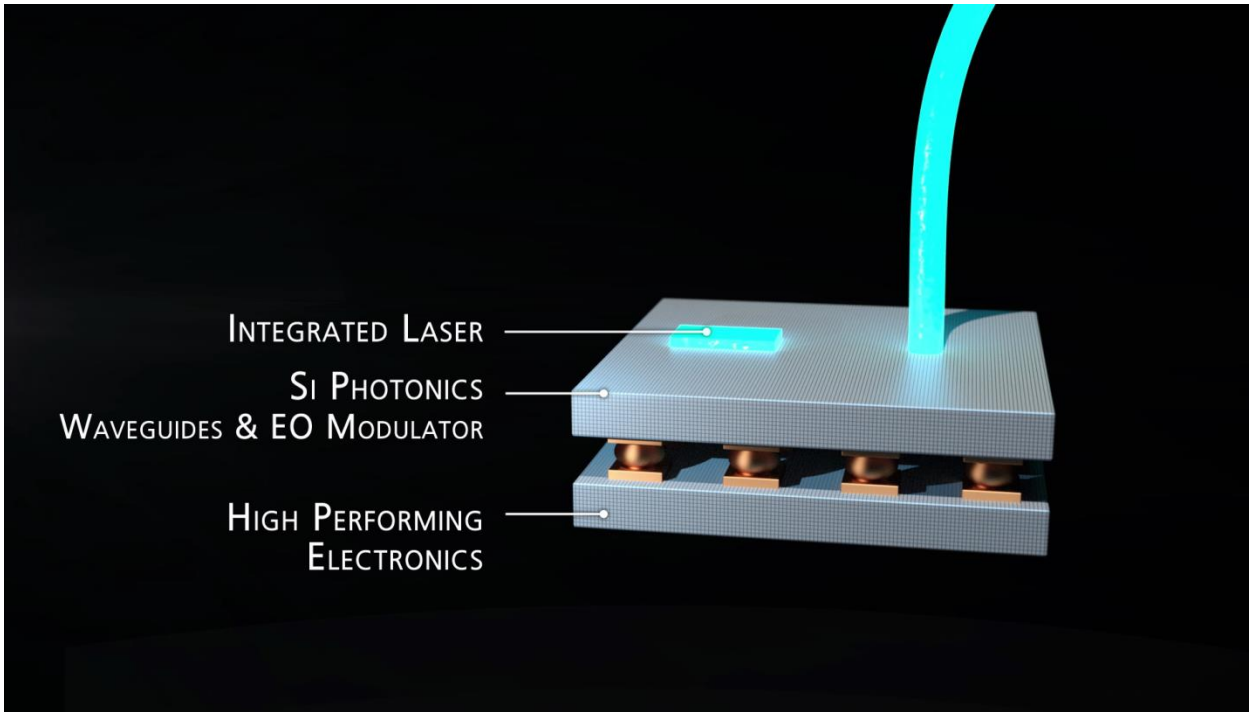

Figure 5 Snap-shot at 01:58 showint the basic L3MATRIX integration technology.

3.6 Section 6 – L3MATRIX scene (01:58-02:42)

This section summarizes the main L3MATRIX goals.

The voice-over for the section is as follows:

- The L3MATRIX switch will be world leading in the density of in and output channels. Less than 0.35 mm2 per channel are required, resulting in a total bandwidth reach of 3.2Tb/s in an area of 100mm2 or less. The technology developed will allow for ten times reduction in the dissipated power of the optical link to the range of 3pJ/bit and at the same time reduce the port-to-port latency to less than 20ns.
- The L3MATRIX project will lead the way towards scalable data center architecture in to the Pb/s scale

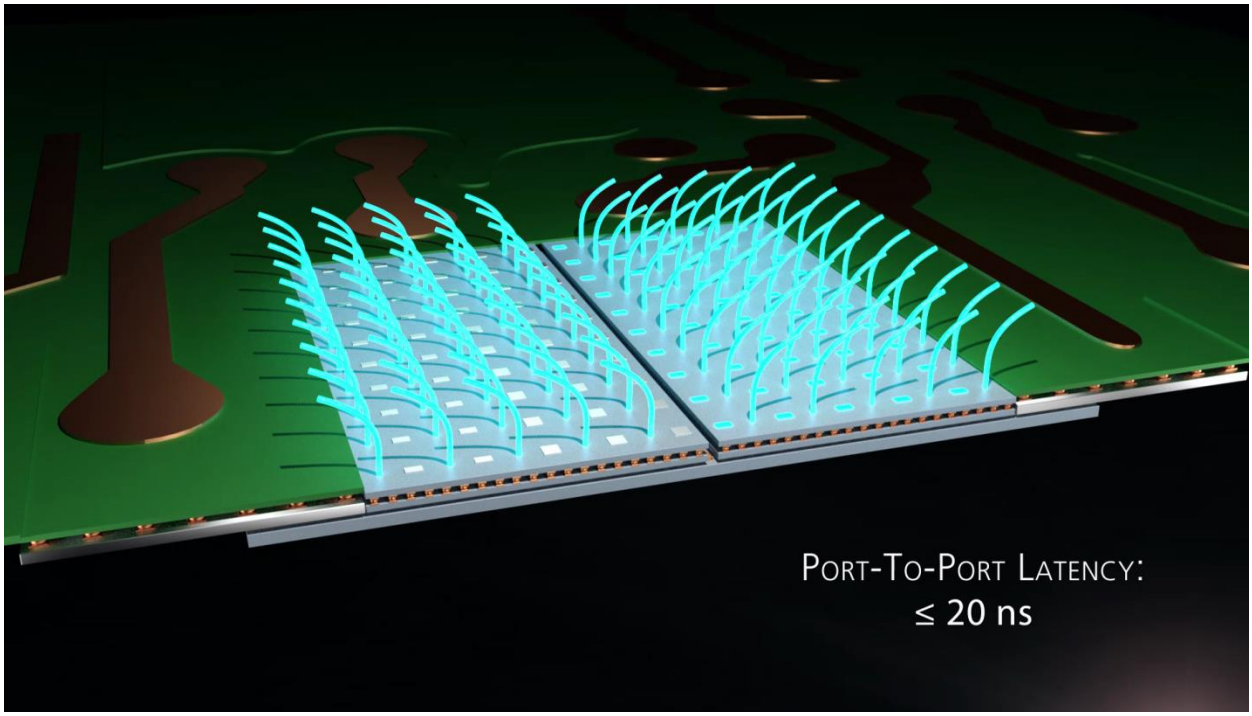

Figure 6 Snap-shot at 02:30 showing the assembled L3MATRIX switching solution.

3.7 Section 7 – Closing section (02:42-02:52)

The final section includes a screen with the EU logo, the logos of the partners and the Grant Agreement Nr.

Figure 7 Final screen of the video.