WHAT IS CLAIMED IS:

1. An optical switch for aligning at least one input optical communication signal from at least one input fiber of an input fiber bundle with at least one output fiber of an output fiber bundle, said optical switch comprising:

a light source configured to produce a control beam;

a MEMS mirror array;

a beam combiner configured to combine a communication beam and the control beam into a co-linear path towards a MEMS mirror of the MEMS mirror array;

a beam splitter configured to split the communication beam and the control beam after reflection by the MEMS mirror;

an image sensor positioned to capture an image of the control beam after interacting with the beam splitter;

one or more hardware processors in communication with the image sensor and configured to:

determine an intensity of a centroid of the control beam based on the image; and

update an output intensity of the light source based at least in part on the determined intensity of the centroid of the control beam to generate an updated control beam from the light source.

2. The optical switch of Claim 1, wherein the one or more hardware processors are further configured to:

determine a position of a centroid of the updated control beam on the image sensor; and

optimize an alignment of the communication beam with the at least one output fiber of the output fiber bundle based at least in part on the position of the centroid.

3. The optical switch of any of Claims 1-2, wherein the one or more hardware processors are configured to optimize the alignment by updating an orientation of the MEMS mirror, preferably, the one or more hardware processors are configured to update the orientation of the MEMS mirror by activating at least some of a plurality of mirror actuators.

4. The optical switch of any of Claims 1-3, wherein the position of the centroid of the control beam on the image sensor corresponds to a position of a centroid of the communication beam on the MEMS mirror.

5. The optical switch of any of Claims 1-4, wherein the beam splitter is configured to reflect the communication beam towards another MEMS mirror.

6. The optical switch of any of Claims 1-5, wherein the one or more hardware processors are configured to:

identify a desired output optical fiber;

determine an initial position of the MEMS based at least in part on a location of the desired output optical fiber; and

set an initial orientation of the MEMS mirror based on the initial position, wherein the determined position of the centroid of the control beam on the image sensor is based on the initial orientation of the MEMS mirror,

preferably, an orientation of the MEMS mirror is based on a set predetermined applied voltages to each of a plurality of MEMS mirror actuators and

preferably, the image sensor comprises a CMOS camera sensor.

7. The optical switch of any of Claims 1-6, wherein the one or more hardware processors are configured to optimize the alignment by:

comparing the position of the centroid of the control beam to a pre-determined position; and

updating a position of the MEMS mirror to move the position of the centroid of the control beam towards the pre-determined position.

8. The optical switch of any of Claims 1-7, wherein the one or more hardware processors are configured to: compare the intensity to a lookup table to determine an approximate time until end of life of the optical switch, preferably, generate an alert based on the approximate time until end of life of the optical switch.

9. The optical switch of any of Claims 1-8 further comprising: an input configured to receive the input fiber bundle,

preferably, the optical switch further comprises: an output configured to receive the output fiber bundle; and

preferably, the optical switch further comprises: a screen configured to produce the image when interacting with the control beam.

10. The optical switch of any of Claims 1-9, wherein a collimator configured to collimate the at least one input optical communication signal to produce a communication beam.

11. A method of aligning at least one optical input with at least one optical output, the method comprising:

determining an intensity of a centroid of a control beam of an optical switch on a camera sensor of the optical switch, wherein a location of the centroid on the camera sensor is associated with a location of a centroid of a communication beam on a MEMS mirror of the optical switch;

updating an output intensity of the control beam based at least in part on the determined intensity of the centroid of the control beam to generate an updated control beam;

determining a position of a centroid of the updated control beam on the camera sensor; and

optimizing an alignment of the communication beam with at least one output fiber of an output fiber bundle coupled to the optical switch based at least in part on the position of the centroid of the updated control beam on the camera sensor.

12. The method of Claim 11, wherein optimizing the alignment comprises:

comparing the position of the centroid of the control beam to a pre-determined position; and

updating a position of the MEMS mirror to move the position of the centroid of the control beam towards the pre-determined position,

preferably, an orientation of the MEMS mirror is based on a set of predetermined applied voltages to each of a plurality of MEMS mirror actuators.

13. The method of any of Claims 11-12 further comprising comparing the intensity to a lookup table to determine an approximate time until end of life of the optical switch, preferably, generating an alert based on the approximate time until end of life of the optical switch.

14. An optical switch, said optical switch comprising:

a light source configured to produce a control beam;

a beam combiner configured to combine a communication beam and the control beam into a co-linear path towards a MEMS mirror;

a beam splitter configured to split the communication beam and the control beam after reflection by the MEMS mirror;

an image sensor configured to capture an image of the control beam after interacting with the beam splitter;

one or more hardware processors in communication with the image sensor and configured to:

determine an intensity of a centroid of the control beam based on the image; and

compare the intensity to a lookup table to determine an approximate time until end of life of the optical switch.

15. The optical switch of Claim 14, wherein the one or more hardware processors are configured to: generate an alert based on the approximate time until end of life of the optical switch,

preferably, the lookup table comprises a plurality of beginning of life beam intensities; and

preferably, the lookup table comprises a plurality of beginning of life beam intensities for each connection between an input fiber and an output fiber coupled to the optical switch.