HiSeq v4 System Upgrade
Frequently Asked Questions

1   **When can I expect my upgrade and how will I be notified of the schedule?** After your order is processed, you will receive a communication from Illumina with a scheduled date for the upgrade. You will receive a second communication from your Illumina field representative with confirmation of the scheduled date and instructions for preparing your HiSeq for the upgrade. One week before the scheduled date, your Illumina field representative will call you to confirm the exact time of arrival to perform the upgrade.

 If during any of the communications you realize that the upgrade cannot occur at the scheduled time, please contact Customer Service at instrumentservice@illumina.com to reschedule the upgrade.

2   **What happens if I am not able to make my instrument available in the week or on the day that that the upgrade is scheduled?** Illumina will make every effort to reschedule your upgrade in subsequent weeks or months but cannot guarantee availability of upgrade engineers on specific dates.

3   **Why do I have to wait for my upgrade?** Illumina is performing upgrades approximately in the order of original upgrade purchase by account. In an effort to upgrade as many units as quickly as possible, we will also take account location into consideration.

4   **What changes are included in this upgrade?** This upgrade includes firmware and software changes to enable faster turnaround time and greater data output in the HiSeq v4 high output mode. The upgrade includes the following key features:

 a   The ability to analyze up to 2 x 125 bp reads
 b   33% increase in number of reads to 4 billion reads (2 billion per flow cell)
 c   67% increase in total output up to 1 Tb (500 Gb per flow cell)
   Up to 167 Gb of output generated per day
 d   Decreased run time to 6 days
 e   Kits fully support dual indexing workflow with no additional reagents required
 f   Low diversity fix removes the need for control lane

 See the **HiSeq System Upgrade Information Sheet** for additional details on the new firmware and software features including a list of compatible systems.

 To prepare for your upgrade and familiarize yourself with support resources, visit the Illumina Support Page:

 - http://support.illumina.com/sequencing/sequencing_instruments/hiseq_1500.ilmn
 - http://support.illumina.com/sequencing/sequencing_instruments/hiseq_2000.ilmn
 - http://support.illumina.com/sequencing/sequencing_instruments/hiseq_2500.ilmn

5   What **effect will this upgrade have on my workflow?** The HiSeq v4 upgrade enables sequencing yields of up to 1 Tb per run (500 Gb per flow cell) in HiSeq v4 high output mode, which requires only 6 days. You can switch from TruSeq v3 to HiSeq v4 runs (or HiSeq v4 to TruSeq v3) following a standard post-run wash. The procedure for switching between high output modes and rapid run mode is not affected by this upgrade.

6 **Is there anything that I need to do to prepare for the upgrade?** To help the upgrade go smoothly, Illumina asks that you prepare your lab before your Illumina representative arrives on site. Upgrade preparation includes the following steps:

1. Please perform a HiSeq maintenance wash and make sure that it is idle at the time of your upgrade.

2. Copy any data stored on your HiSeq computer D:\ or E:\ drives to a separate storage location.

7 **What do I need to connect to BaseSpace?**

- For upload of data to BaseSpace, a minimum upstream connection bandwidth of 10 Mbit/second per instrument is required. Network speed can be assessed by using free online tools such as www.speedtest.net.

- Contact your local IT administrator if local security policies have to be modified to allow access to BaseSpace. BaseSpace uses SSL/https port 443 and the domains api.basespace.illumina.com and basespace.illumina.com. Data streaming to BaseSpace is encrypted using the AES256 standard and uses SSL for protection. More information on encryption can be found at http://blog.basespace.illumina.com/2011/12/13/basespace-security/

8 **Do I need to revalidate my instrument after it is upgraded?** After we upgrade the system, Illumina will perform a series of optical checks to verify system performance. As there is no hardware being exchanged with this upgrade a sequencing run is not necessary. If you have a CLIA lab process or other institutional needs that require system revalidation, you can design and perform a validation plan that fits your needs.

9 **Will I see changes in how data are presented?** There are no changes to data directory and file structure with the upgraded system. There will be a new version of Sequencing Analysis Viewer (SAV) installed to visualize the data correctly.

The new version of HiSeq Control Software (HCS) enforces the option to zip BCL files in HiSeq v4 mode only and allows the option to bin Q-scores, which results in up to a > 50% reduction in size of the output files. An updated version of bcl2fastq conversion software is required to analyze the zipped BCL data, which is available for download from the Illumina support page.

Contacting Illumina

If you have any other questions about the upgrade schedule, please contact your local Illumina Sales representative or email instrumentservice@illumina.com.

For technical questions, please call Illumina technical support or go to www.support.illumina.com.

Technical Support

7:00am - 5:00pm (PT)
858.202.4766 (Fax)
TechSupport@illumina.com
Orders@illumina.com

Toll-free Phone Numbers

800.809.4566	North America
0800.296575	Austria
0800.81102	Belgium
80882346	Denmark
0800.918363	Finland
0800.911850	France
0800.180.8994	Germany
1.800.812949	Ireland
800.874909	Italy
0800.0223859	Netherlands
800.16836	Norway
900.812168	Spain
020790181	Sweden
0800.563118	Switzerland
0800.917.0041	UK

All other European, Middle East and African countries
+44.1799.534000

Other Regions/Locations
858.202.4500