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JCSAT-11 Blog

JCSAT-11



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ILS Declares Proton Launch Anomaly

Khrunichev and International Launch Services regret to announce the failure of the Proton launch vehicle to put the JCSAT-11 satellite into proper orbit for JSAT Corporation. Please click [here](#) to read the entire press release.

Posted 05 September 2007

[0 comments](#)

Posted By: ILS Communications Team at 22:36, EDT

On Standby

After a successful liftoff and initial burn sequence, we have encountered a technical problem with the second stage burn. Please check back here or on the ILS hotline for further updates, which will be released as they become available. Thank you.

Posted 05 September 2007

[0 comments](#)

Posted By: ILS Communications Team at 19:00, EDT

Countdown Continues



All systems are nominal. The launch vehicle is being loaded with oxidizer and fuel in preparation for the launch, which is scheduled to take place in just under four hours.

Join us for a [live broadcast](#) of the launch events beginning at approximately 6:20 p.m. EDT (23 minutes prior to launch). Post-launch updates will be noted as they occur here at the ILS blog and on the ILS hotline at 1-800-852-4980.

Go Proton!

Photo: JCSAT-11 on the pad, counting down to launch. Visit the [Photo Gallery](#) for more pictures.

Posted 05 September 2007

0 comments

Posted By: ILS Communications Team at 15:46, EDT

Rolling, Rolling, Rolling...

Bright and early Friday morning (well, not that bright, as the sun was just rising), the entire launch vehicle was rolled out to the Breeze M fueling station, where its propellants (fuel and oxidizer) were loaded into the upper stage over a two-day span. These operations are entirely in the hands of our partners at Krunichev and the Russian Space Forces, so our team had a little bit of time to catch up on administrative tasks. In the meantime, the Russian state commission arrived on the second day of fueling and gave the go-ahead for the integrated launch vehicle to roll to the pad with the JCSAT-11 satellite.



During these two fueling days, our team had a chance to sneak in a quick tour of the launch pad, which was used for the Russian N-2 Moon Booster and Energia boosters in years past. These were truly massive rockets, with a lift capability of over 100 metric tons (220,000 pounds) to Low Earth Orbit! The sheer scale of the pad was equally large and impressive.

This morning, the integrated launch vehicle rolled via train to the launch pad (Pad 39). As the rocket is transported horizontally, it must be "verticalized" once it arrives on the pad by yet another impressive piece of Russian machinery. Most of the team was present to witness this event, as it is quite a sight to see, and there is a good deal of work to be accomplished once the rocket is raised to its vertical position. All of the rocket and satellite systems are now being checked out to ensure that they are still working as they did prior to transport, and the communications links from the pad to the control room will be verified. This activity will continue late into the evening today, and tomorrow the teams will have a countdown rehearsal to give a final check that everything will go smoothly on launch day.

T-minus 4 days until launch!

Photo: Arrival at the pad. Visit the [Photo Gallery](#) for more pictures.

Posted 2 September 2007

0 comments

Posted By: ILS JCSAT-11 Launch Team at 5:44, Baikonur

Mission Overviews Available



Visit the [JCSAT-11 Mission Overview](#) page for in-depth mission information or to download a PDF version of the overview. To download a PDF of the Roscosmos JCSAT-11 Mission Booklet, click [here](#).

Posted 31 August 2007

[1 comments](#)

Posted By: ILS Communications Team at 11:06, EDT

Ready to Roll

As the Khrunichev team has noted in their post, the SC and Breeze M have been mated to the Proton launch vehicle, so the integrated launch vehicle is now in its full launch configuration. Tomorrow morning the integrated launch vehicle will move to the Breeze M fueling station, where the upper stage will be loaded with its propellants over a two-day period. Following this loading operation, the Russian state commission will meet to determine readiness to roll the vehicle to the launch pad.

The air is abuzz with excitement about the launch, as the team is anxious to see the fruits of their labor next week. T-minus 7 days to go!

We had an unexpected guest show up in front of our hotel today - a lone camel. Camels are common in this part of Kazakhstan, but it's rare to see one wander quite so close to where we live. He wasn't a particularly friendly kind of guy, though he did allow for a photo op or two before moving on to the next bush to chew on.



Photo: A local visitor stops by to check out operations. Visit the [Photo Gallery](#) for more pictures.

Posted 30 August 2007

[1 comments](#)

Posted By: ILS JCSAT-11 Launch Team at 18:33, Baikonur

ILS Proton to Launch JCSAT-11

ILS officially announces the launch details for JCSAT-11 on 6 September (Baikonur). Click [here](#) to read more, including the broadcast coordinates and mission information.

Posted 30 August 2007

[0 comments](#)

Posted By: ILS Communications Team at 10:22, EDT

JCSAT-11 Launch Campaign Enters Final Stage

From Khrunichev Press Release

The preparations for Proton M mission with JCSAT-11 telecommunications satellite enters decisive stages when Khrunichev-led international launch team has integrated the Space Head Unit (made of the spacecraft, adapter, Breeze M upper stage and payload fairing) to Proton rocket and began today routine electrical checks of the Integrated Space Launch Vehicle (a combination of Space Head Unit, Proton Breeze M rocket and JCSAT-11 spacecraft) in Hall 101 of Assembly and Test Building 92-A50 ("MIK").

According to the launch schedule, tomorrow, on August 30, the fully integrated space launch vehicle will be transferred from Hall 111 to technological fueling station for Breeze M upper stage fueling. The fueling of low-pressure tanks of Breeze M upper stage with propellants will last the next couple of days.

After this stage is completed, the Russian State Commission will be held on September 1st to verify the readiness of the Integrated Launch Vehicle for rolling out to the Launch Pad.

The JSAT Corp.'s JCSAT 11 spacecraft is scheduled to be launched aboard Proton M/ Breeze M on September 6.

Posted 29 August 2007

[0 comments](#)

Posted By: Khrunichev Team at 16:28, Moscow

G'day, Mate!



Yes, it's true. Mating season has begun in Baikonur. Of course, not in the traditional sense of the term, but yesterday the JCSAT-11 satellite was mated with the Breeze M upper stage.

The morning began by carefully and slowly rolling the spacecraft on its dolly (all human powered) from Hall 103A where it was fueled, to Hall 111, where the Breeze M awaited. The lift fixture was attached to the satellite, and it was lifted by crane and mated to the SC adapter - essentially the same operation that was accomplished during the touch-and-go fitcheck. However, this time the flight clampband separation system was installed by the specialists from Saab (the company who designs and manufactures the device). This device holds the spacecraft tightly to the adapter, and releases the

spacecraft when it reaches its destination orbit.

After the clampband was tensioned to ensure that it would adequately hold the spacecraft, the SC and adapter were lifted (now one piece) by crane and put in position above the Breeze-M in the mechanical fixture we refer to as the "tilter." The Breeze-M is then raised to meet the spacecraft and bolted together - the second mating activity of the day.

Electrical checks were completed to ensure that the LMCSS team can communicate with the SC through the Breeze M and adapter system. Once all of the checks were successfully completed, the major remaining mechanical task was to put the spacecraft fairing around the satellite - an operation referred to as encapsulation. To accomplish this, the entire Breeze M/ SC/adapter assembly is tilted (by the tilter, hence the name) from the vertical position to the horizontal position. It is done this way, as the majority of the work (including the Breeze-M/ Proton mating) on the integrated Proton vehicle is done in the horizontal position. The tilt over is quite a sight to see, as the massive assembly moves slowly downward, seemingly defying gravity.

The spacecraft is now tucked away inside the payload fairing, not to be seen again. We're 12 days away from launch and ready to continue mating season on Tuesday, when the spacecraft, Breeze M, and adapter - known as the Space Head Unit or SHU, will move to Hall 111 to join the Proton launch vehicle.

A fair portion of the LMCSS team will depart Baikonur tomorrow, as much of the work on the satellite is now complete. Tonight they'll be given a fond farewell with a special taco dinner! Arriba!

Photo: Tiltover operations underway. Visit the [Photo Gallery](#) for more pictures.

Posted 25 August 2007

[0 comments](#)

Posted By: ILS JCSAT-11 Launch Team at 16:57, Baikonur

Fill 'Er Up!

The 18th and 20th of August were spent loading the spacecraft with fuel and oxidizer, respectively. Because there is no oxygen in space to allow combustion, the spacecraft has to carry its own oxidizer along. As it was previously mentioned, these chemicals are extremely dangerous - if they are inhaled or make contact with the skin, lots of nasty consequences can result. Similarly, the fuel is flammable on its own, and the two chemicals are explosive if mixed. Needless to say, extreme precautions are made to ensure the safety of the team during the loading operations. This begins with proper planning of the operation, extensive review of the plans, good discipline, and use of protective gear known as SCAPE (Self-Contained Atmosphere Protective Ensemble), which looks a fair amount like an astronaut's spacesuit.



With all of the appropriate safety measures in place, the loading of the propellants went flawlessly. The spacecraft is now almost ready to mate with the Breeze-M upper stage, which will take place on August 24th (L-13). In the meantime, the teams are finalizing checks of all of the cables which will connect the spacecraft to the rocket and to its test equipment to ensure that everything is ready to be mated.

As this represented another major milestone for all of the teams, the appropriate mode of celebration was... you guessed it... another barbecue! This time, the propellant loading team took the main focus, with a few speeches and toasts given to those who helped us get to this point. This also worked out as a convenient time for the presentation of the awards for the illustrious Baikonur Ping Pong World Championships. Not surprisingly, Russia prevailed again, taking the top 3 slots. As usual, a good time was had by all.

Photo: Getting ready to enjoy a feast at the post-fueling BBQ. Visit the [Photo Gallery](#) for more pictures.

Posted 22 August 2007

[0 comments](#)

Posted By: ILS JCSAT-11 Launch Team at 22:19, Baikonur

Baikonur Ping Pong World Championships



While it's not quite an annual event, nor a particularly well known one, the Baikonur Ping Pong World Championships was held this evening at the exclusive Proton Club (our entertainment facility here). Countries represented included France, the United States, Sweden, Russia, Japan, and (by heritage) the Philippines. The competition was intense, though the mood was pretty lighthearted.

Who will stand proudly to claim their country's honor? Who will hang their head in shame?

You'll have to stay tuned to the ILS blog find out.

Photo: A top contender for the ping pong championship title representing Khrunichev with pride. Visit the [Photo Gallery](#) for more pictures.

Posted 19 August 2007

[0 comments](#)

Posted By: ILS JCSAT-11 Launch Team at 21:24, Baikonur

BBQ Time

To celebrate the end of their standalone electrical testing (known as SEPET - System Engineering Performance and Evaluation Test), the LMCSS team threw a barbecue for all of the campaign participants. Ever since the morning of the thunderstorm, the weather has been beautiful here - in the high 80s, Fahrenheit (low 30s, Celsius), sunny with low humidity and a nice breeze blowing. The barbecue day was no exception.



Among the mountains of food that the LMCSS team brought were sausages and tri-tip steak (a California specialty), which became the menu for the evening. The kitchen staff at Baikonur has become very experienced at the process of cooking tri-tip, since several American satellite vendors from California have brought it time and time again.

The barbecue gave all of the teams some time to mingle and get to know each other better outside of the daily work environment. The American, Japanese, and Russian teams could be seen toasting with each other to a good campaign so far, and more to come. New friends, good food, and rock and roll music rounded out the evening nicely.

All thoughts are towards are next major event, spacecraft propellant loading, which will take place this weekend. This event is considered to be a major milestone on the campaign, as a commitment to fuel the spacecraft is strong commitment to proceed with launch. This is due to the fact that the spacecraft propellants are extremely hazardous, and emptying the tanks once they've been filled is not generally desirable. All of the teams have indicated their readiness to proceed, so things are looking good for an on-time launch on September 6th!

More to come after we've completed fueling!

Photo: Some LMCSS team members enjoying the barbecue. Visit the [Photo Gallery](#) for more pictures.

Posted 17 August 2007

[0 comments](#)

Posted By: ILS JCSAT-11 Launch Team at 21:34, Baikonur

Joyeux Anniversaire!



With the rigorous launch schedule ILS has, it's inevitable that some team members' birthdays will fall during their trip to Baikonur. Today we celebrated the ILS program director's birthday. The kitchen staff out-did themselves by whipping up a cake, and we found some balloons to make the atmosphere a little more festive in the dining room at the hotel. The PD made sure not to mention his birthday to anyone, but his cover was blown due to the fact that the operations manager maintains a list of all of the passport and date of birth data for everyone on the campaign.

After the presentation of the cake, and a few gifts that had been scrounged up, the ILS PD remarked that it was the best birthday he'd ever had... in Baikonur.

Photo: The ILS Program Director and his Baikonur birthday cake. Visit the [Photo Gallery](#) for more pictures.

Posted 13 August 2007

3 comments**Posted By: ILS JCSAT-11 Launch Team at 18:08, Baikonur**

Afternoon on the Town

After a very full week since the early team arrival, the ILS team finally had a chance to divide forces. Half the team headed into the town of Baikonur, also known as Leninsk, for a much-needed change of scenery. The ride to town takes just under an hour on some very bumpy roads. For the passenger who gets the rear seat in the van, the experience can be a bit akin to riding a horse. Seat belts are used as a harness to keep you from bouncing, as much as they are used for safety.



The bumpy ride was worth it when we arrived at the main market in town. For those of us who have only been here in the winter, the wide array of fruits and vegetables for sale in the summer was an welcome change. The ILS team has developed a bit of an addiction to the best product available at the market - pistachios. The trip to town to get our fix was just in time. Also on the shopping list were some flip-flops to replace ones that were forgotten at home, and some locally made stuffed camel toys.

The market visit was followed by another ILS favorite, Pizzeria Palermo. Pizza isn't exactly a common food in this part of the world, so it's nice to have a taste of home. The menu at Palermo's was translated into English several years ago, so our team is able to get by without an interpreter, but only with lots of pointing and gesturing. A few pizzas and draft beers (again, not common by local standards) later, we headed back to the Cosmodrome, happy and rested.

Tomorrow is back to a full day of launch activities for the whole team, so we'll be right back at it. The SC should finish up its standalone tests early this week, and begin preparations for fueling, which will take place next weekend.

Photo: IT team member (left) and ILS PD (right) enjoy some pizza in Leninsk. Visit the [Photo Gallery](#) for more pictures.

Posted 12 August 2007**0 comments****Posted By: ILS JCSAT-11 Launch Team at 19:47, Baikonur**

Touch-and-Go and Standalone Operations



The spacecraft was removed from its container and placed on top of the SC adapter. This adapter serves as an interface between the SC and the upper stage of the Proton, known as the Breeze M. While the structure looks to be fragile, its advanced design can support a massive amount of weight and dynamic forces. The operation is called "touch-and-go" and verifies that the hardware interfaces on the satellite and the SC adapter match up correctly.

Once all of the proper mechanical interfaces were verified, the SC was taken off the adapter and moved to its primary processing facility, known as Hall 103A. The LMCSS team will take about six days to complete all of the required checkouts of the spacecraft and prepare it for fueling operations. Because this operation only involves the SC and no other launch vehicle hardware, it is known as standalone operations.

Today's weather was a refreshing change from the norm, as it was cool after some early morning thundershowers. The ILS operations manager received confirmation that the lightning detector he configured was indeed working, when the monitor called him at 5 a.m. to indicate that we had lightning within 5 kilometers. This information is only used as a

precaution, and typically would only be of any concern if the spacecraft were undergoing fueling operations.

The Lockheed Martin (LMCSS) team brought enough food with their SC shipment to feed an army, so we look forward to some barbecues in the evening this weekend.

Photo: SC on the adapter. Visit the [Photo Gallery](#) for more pictures.

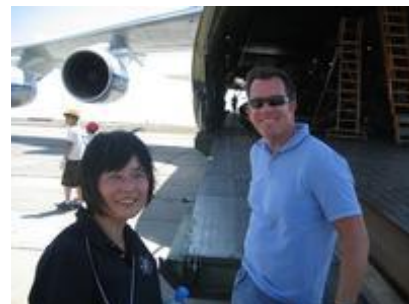
Posted 10 August 2007

[0 comments](#)

Posted By: ILS JCSAT-11 Launch Team at 17:32, Baikonur

The Eagle Has Landed!

The spacecraft arrived right on time in Baikonur - actually, about 20 minutes earlier than expected, to be precise. The launch team was on the bus heading to the airport when the Antonov-124 cargo plane carrying the satellite flew directly overhead, on the same route as the bus. This made for a great view of the plane landing, though no one was quick enough to take advantage of the photo opportunity.



The team came to the airfield well equipped: plenty of water and sunscreen on hand, as the only shade out there is provided by the wings of the Antonov.

Despite the temperature, a consistent breeze was blowing, which made the offload much more manageable. Thankfully the breeze didn't pick up enough to cause any problems with raising the nose of the Antonov or hoisting the SC container.

An interesting part about offload day is that it is the team's first experience with Baikonur boxed lunches. Our Russian hosts go out of their way to provide a variety of things that will appeal to all tastes, so the results can be a bit overwhelming to the uninitiated. The lunch consisted of a hamburger, a small pizza, a sandwich, pasta, a pork chop, a bottle of soda, a box of juice, a bottle of water, a bag of chips, and a candy bar. If one were to eat all these items at every meal, they'd surely put on some extra pounds during the campaign.

The SC container, along with six sea-land containers of support equipment, were all loaded onto the train for transportation to the processing building, known as 92A50. While the bus ride from 92A50 takes about 45 minutes, the train takes over six hours, since it must go slowly enough as to not to impart any excessive shock or vibration -- both factors which are closely measured during the transport -- to the satellite and equipment. While the train made its journey, the team headed back to the hotel area to rest and eat dinner.

The train arrived at building 92A50 around 10 p.m., and the crew jumped to work immediately. All of the containers were offloaded in Hall 101, which is the processing area where the SC will eventually be mated with the Breeze M upper stage. Because the train is brought directly into the clean room from outside, the room must be cleaned after the rail cars (which were carrying the container) leave. The SC container was left closed overnight to allow the contamination control system to eliminate the particles in the room before opening the container.

Tomorrow's plan is to remove the SC from the container and accomplish a "touch-and-go" test - a verification that the SC adapter mates correctly with the SC.

Photo: JSAT Program Manager (left) and LMCSS Program Manager (right) on hand for the arrival and unloading of the SC. Visit the [Photo Gallery](#) for more pictures.

Posted 08 August 2007

[0 comments](#)

Posted By: ILS JCSAT-11 Launch Team at 23:48, Baikonur

JCSAT-11 Arrives in Baikonur



From Khrunichev press release.

JCSAT-11 Telecommunications Satellite Arrives in Baikonur – Khrunichev Prepares its Proton Rocket For the First Time to Launch Satellite For Japan.

Preparations for the next Russian Proton Breeze M commercial launch, the third in this year, to deliver into orbit the JSAT Corp.'s JCSAT-11 satellite – a A2100-based telecommunications spacecraft built by Lockheed Martin – are under way at the cosmodrome in Baikonur, Kazakhstan.

The Proton Breeze M launch with the next-generation JSAT satellite scheduled in September will be the first Proton commercial mission for Japan. International Launch Services Inc. will provide the launch services on Khrunichev-built Proton launch vehicle.

The spacecraft and the equipment needed for ground operations arrived at Yubeliy airport of the Baikonur Cosmodrome in Kazakhstan, early this morning, 7 August, aboard an Antonov 124 "Ruslan" cargo plane operated by Russian "Polet" carrier.

On arrival, the load was unloaded and transported by rail into the vehicle assembly and testing building, MIK, site 92-50 of the cosmodrome, where in a clean room Lockheed Martin industrial team will perform pre-launch operations with the spacecraft. These will include autonomous checking of all JCSAT-11 systems and subsequent tests on the basic performance of the spacecraft.

The Proton M heavy-class carrier rocket, which will be used for the commercial mission with the JCSAT-11 satellite, arrived at cosmodrome earlier. The Khrunichev engineers began the routine assembly and test operations with the rocket's stages in mid-June. The rocket is being prepared for launch of the same vehicle assembly building.

All pre-launch preparations are well under way according to schedule.

The Proton M is an upgraded version of the principal heavy-lift vehicle in Russian space program, the Proton. The Proton vehicle has carried out more than 320 missions for the Russian government and commercial customers over nearly 40 years and it is among the most reliable boosters in the world.

JCSAT-11 is a commercial telecommunications satellite. JCSAT-11 will be a in orbit back up satellite which covering all JCSAT fleet throughout Japan, Asia-Pacific Region and Hawaii.

Photo: Antonov 124 Ruslan, carrying the JCSAT-11 satellite. Visit the [Photo Gallery](#) for more pictures.

Posted 07 August 2007

[0 comments](#)

Posted By: Khrunichev Team at 05:59, EDT

Quick Update

Our team continues to grow daily. Today the majority of the Lockheed satellite team arrived in Baikonur from Moscow. We're now over 70 strong between all of our teams, and ready to rock and roll. The offices and hotels are buzzing with activity while we plan for spacecraft arrival tomorrow. We received word that the spacecraft has reached one of its refueling points in Iceland, and should arrive on time tomorrow at 10 in the morning.

Posted 06 August 2007

[0 comments](#)

Posted By: ILS JCSAT-11 Launch Team at 15:34, Baikonur

Greetings from Baikonur!



Our team grew larger at the charter terminal in the airport this morning where we met up with most of our interpreters, our secretaries and our medical team from SOS. We fly to Baikonur from a smaller airport in Moscow (Sheremetyevo 1), and leave from a charter terminal that consists only of our team, which is nice. One of the oddities of the charter terminal is that you exchange your passport for a free drink coupon in the lounge - it's just a formality while they're processing your information, but for new team members it can seem like a somewhat uneven trade.

The team's first impression of Baikonur? Hot. It was approximately 36 degrees Celsius (97 degrees Fahrenheit) when the team arrived. But, as they say, it's a "dry heat." The team processed through Kazakh customs, and was on their way to the two hotels, the Fili and the Kometa, our homes for the next 36 days or so.

Tomorrow we will set up our offices and inspect our facilities for readiness before the majority of the satellite team and (of course) the satellite itself arrives.

Photo: Aerial view of Kazakhstan. Visit the [Photo Gallery](#) for more pictures.

Posted 04 August 2007

[0 comments](#)

Posted By: ILS JCSAT-11 Launch Team at 20:28, Baikonur

Made it to Moscow

Greetings from Moscow! The JCSAT-11 early team arrived today from the United States to a rainy day in Russia's capital. The early team consists of all of the ILS team members, a few of the Lockheed Martin Commercial Satellite Systems leads, DTSA personnel and our Pinkerton guards. It's a bit odd to walk into a hotel on the other side of the world to see a whole group of people you know hanging around in the lobby - but it's a nice feeling nonetheless. After unwinding a bit, the ILS team met up for dinner with one of our Russian partners from Weissker who we work with on a daily basis but rarely see in person.



The early team will leave for Baikonur bright and early (especially bright, since the days are long in Moscow in the summer) tomorrow morning. More to come from Baikonur!

Photo: The streets of Moscow. Visit the [Photo Gallery](#) for more pictures.

Posted 03 August 2007

[0 comments](#)

Posted By: ILS JCSAT-11 Launch Team at 18:39, Moscow

Welcome to the JCSAT-11 Blog!



Welcome to the third ILS Proton launch campaign this year -- JSAT's JCSAT-11. We are looking forward to another exciting launch to take place on Sept. 6 in Baikonur (Sept. 5, EDT). Follow along with the JCSAT-11 Launch Team as they prepare for the big day.

Photo: Artist's rendering of the JCSAT-11 satellite. Visit the [Photo Gallery](#) for more pictures.

Posted 02 August 2007

[0 comments](#)

Posted By: ILS Communications Team at 15:27, EDT