The SSJ100 timeline

05_2008 SSJ100 first flight

01_2011 SSJ100 type certificate

04_2011 SSJ100 first commercial flight

04_2011 SSJ100 first delivery

02_2012 SSJ100 achieved EASA certification

07_2013 first SSJ100 delivered to Interjet

05_2015 100,000 Fleet FH

01_2016 CAT IIIA authorization
SSJ100_

The most reliable full fly-by-wire in its class, excellence in design – proven in service:

The SSJ100 – a fusion of Russia’s famed aviation design and production skills with the latest systems from the world’s leading aerospace suppliers – offers standards of economy, performance, environmental efficiency and passenger comfort never before seen in a 100-seat airliner.

Ease of maintenance has been built into the SSJ100 from the start. The manufacturer’s vision of creating an all-new aircraft with engines and airframe designed together has resulted in the SSJ100 offering reduced costs combined with excellent reliability. The SSJ100 uses well-proven state-of-the-art avionics, and is the first aircraft of its size equipped with a full fly-by-wire system to maximize efficiency and reduce running costs.

Partnerships with established maintenance operators have created a global network that integrates perfectly with existing fleet operations at even the remotest airports. The “SuperCare Plan” offers SSJ100 operators an efficient and reliable maintenance service with fixed rates per flight hour.

With big-jet feel in a compact form, the SSJ100 is ideally suited to emerging airline markets, and perfect for operators looking to right-size their fleets.
Excellent dispatch reliability on a wide range of cycles

The SSJ100 has been successfully operating a challenging range of cycles, from 1 to 3 hour flights, some 13 flights a day all year round.

Jose Luis Garza, Chief Executive Officer of Interjet referring to dispatch reliability stated:

“You normally go through a learning curve, we are already there”

The SSJ100 has been successfully operating a challenging range of cycles, from 1 to 3 hour flights, some 13 flights a day all year round.

Tested in extreme conditions:

MEXICO CITY
Subtropical climate
Elevation of more than 2200m

28°C (83°F)
average summer temperatures

YAKUTSK
The coldest temperatures for any city

-39°C (-38°F)
average winter temperatures

The SSJ100 operates in some of the most difficult hot & high conditions. From the 2200m altitude of the Toluca Airport in Mexico, for example, it flies to 25 domestic and 8 international destinations.

The SSJ100 operates out of Yakutsk Airport in extremely low daily temperatures, sometimes below -40°C, operating 16 domestic routes and 19 international destinations.

SSJ100 tops comfort in internal survey

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Better than expected fuel consumption

-10%
Airframe and engine designed together right from the start. Maximizing performance through engineering synergy

Designed to maintain
Catia Human Builder software has been used throughout the design and development of the SSJ100 not only to optimize flightback ergonomics but also to simplify maintenance, by designing in accessibility and providing expedient access to all parts of the airframe, the labor required to inspect, check and replace components is significantly reduced.

Russian airframe excellence
Sukhoi is a long-established manufacturer with vast experience in the high-tech production demands of modern aerocraft. The SSJ100, with the tradition of Russian airframe excellence, a state-of-the-art aerodynamic excellence, a state-of-the-art airframe structure, its design from leading suppliers to produce an aircraft ready to face the world’s most challenging operating environments.

Optimized dedicated engine
The SaM146 engine that powers the SSJ100 was created especially for the aircraft and has been designed from the ground up with the demands of a regional jet in mind. This market requires frequent flights and fast turnarounds – a testing environment for an engine, especially when downtime must be avoided. The SaM146 is easy to maintain, and its class-leading fuel burn also contributes to low overall running costs. The engine meets the latest noise regulations and emission requirements.

Teamwork
Early in the project Boeing was involved as a consultant for program management. From the outset the SSJ100 was designed to use proven systems, many of which are derivatives of existing off-the-shelf components – a highly cost-efficient approach to aircraft design and construction, with obvious safety benefits.

Optimized fan blades
State-of-the-art compressor
High-tech long-duct nacelle
New combustion chamber

Aerodynamic excellence
For nearly a century, the Central Aerohydrodynamics Institute (TsAGI) in Russia has been a leading research center, recently counting major international manufacturers among its clients. The TsAGI wind tunnel was used to hone the SSJ100’s design – minimizing drag, optimizing fuel burn, and perfecting the supercritical wing profile.

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lifft TsAGI wind tunnel optimized wing profile

airflow TsAGI development means less drag and higher performance

thrust superior performance in "hot & high" conditions

view the SSJ100 cockpit window is one of the widest in its class
Bringing big-jet technology to the small airliner – leading the way with the latest fly-by-wire and avionics systems

Swift diagnoses
The SSJ100 is equipped with a Centralized Maintenance System (CMS) that records and analyzes maintenance data, and swiftly diagnoses any faults. Quick and easy troubleshooting results in reduced downtime and costs.

Advanced engine design
Designed especially for the SSJ100, the SaM146 engine contains fewer components than its rivals – the high-pressure compressor, for example, comprises only six stages with two blisks. This optimized architecture leads to lower weight and reduced maintenance costs. Much of the technology underpinning the SaM146 can now be found in the latest engines entering service today.

Improvement programme
An ongoing improvement programme ensures that the SSJ100 receives all hardware and software updates smoothly and efficiently, with the least possible impact on dispatch levels.

First time fly-by-wire
The SSJ100 is the first 100-seat jet with a full fly-by-wire (FBW) system, designed to optimize handling, reduce flight crew workload, and maximize fuel efficiency. The SSJ100’s FBW offers the sophistication previously found only on larger airliners – the system provides full flight envelope protection, enabling the SSJ100 to operate safely under the widest range of conditions. The absence of mechanical cables eliminates time consuming maintenance inspections, dramatically reducing maintenance costs.

Lighter, faster communications
The SSJ100 boasts Integrated Modular Avionics (IMA), supplied by market leader Thales. The modularity also allows upgrades to be made quickly and efficiently, with reduced overheads.

The other principal component of the SSJ100’s avionics system is an aircraft full duplex switched data network (AFDX), offering fast, reliable interconnection of the aircraft’s computer systems. The network architecture reduces the amount of cabling used, while at the same time providing redundancy. This real-time airborne computer network saves both weight and maintenance costs.
Full fly-by-wire improves safety & makes the SSJ100 lighter and easier to fly

Pilot-friendly deck
The crew benefit from a “dark and quiet” flight deck designed after extensive consultation with pilots to give a working environment that offers exceptional ergonomics. Five large switchable LCD screens provide flight data and an interface to the aircraft’s state-of-the-art avionics, including the latest weather radar, navigational and anti-collision devices, as well as an “electronic flight bag” option.

Intuitive engine controls
The SSJ100’s engines are controlled by active, servo-driven throttles – an established design solution that pilots find intuitive to use.

Efficient flight deck-tech
The SSJ100 is the first aircraft of its class to be equipped with a full fly-by-wire (FBW) system, which has been designed to prevent the aircraft from exceeding its flight envelope and includes automatic deployment/retraction functions for high-lift devices and spoilers. Particular attention has been paid to the operational flight envelope, with control parameters adjusted to improve the feel of the aircraft under all conditions that pilots are likely to experience. The FBW system also enables the SSJ100 to operate as efficiently as possible, reducing fuel consumption and contributing to the aircraft’s remarkably low running costs.

High-feedback side stick
The long-strut sidestick not only offers exceptional comfort through attention to ergonomic detail, but has also been designed to give the pilot new levels of feel and feedback.

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Leading names in world aviation

SSJ100

overall length: 29.94 m (98 ft)
western industrial content: more than 60%

- landing gear
- avionics
- Italian designed interiors
- powerplant
- engine vibration monitoring, TRU
- airborne electrical power supplies, electrical system, wheel brakes and brake control
- flight control system, air management
- fuel system, HMI (lights)
- load management unit
- hydraulic, OBEGGS
- APU
- THALES
- MEGGITT
- UTC Aerospace Systems
- LIEBHERR
- ZODIAC AEROSPACE
- Estenring
- Parker
- Honeywell
The Sukhoi Superjet 100 has satisfied EASA’s latest and most stringent requirements – confirmation of the excellence and reliability of this all-new design.
Passenger experience
Passengers will notice the difference as soon as they step aboard – unlike the “tunnel effect” of other aircraft of this class, the spacious and airy cabin of the SSJ100 sets it apart from its competitors.

A sensation of space: 2m+ high cabin

Ergonomic facilities
As standard equipment the SSJ100 carries two toilets, meticulously designed to be comfortable to use and quick to clean. One toilet is tailored for the needs of disabled passengers and equipped for the use of people travelling with babies.

Easy access to overheads
The SSJ100 offers more overhead baggage space per passenger than competing aircraft. The generous lockers are easily accessible – a useful feature if the operating environment prioritises carry-on luggage, as this facilitates a swift turnaround.

Pininfarina interior (optional)
Leading design studio Pininfarina has created an exclusive interior for the SSJ100. The “Italian team”, comprising Alenia Aermacchi, Superjet International and Pininfarina, has developed the initial concept into a production reality, crafting a cabin for SSJ100 customers who want their aircraft really to stand out from the crowd – modern and elegant, yet at the same time functional and easy to maintain.

Narrow-body space in a compact airliner comfortable for passengers, greater access, so more profit for operators

Wide seats
The seats of the SSJ100 are wider than those of its competitors – the generous size and spacing plus ample legroom offer unsurpassed passenger comfort.

Wide aisle
The SSJ100 has the widest aisle in its class, speeding up boarding and deplaning. The cabin crew can move easily through the cabin, with space to spare for passengers to pass by.

Low cargo access
Easy last-minute baggage additions as there is no need for ground support to get access.

Increased cargo space
The diameter of the SSJ100’s fuselage gives the aircraft the largest cargo bay in its class, with a maximum height of over 1 meter, easing the work of baggage handling.

Two wide-opening doors give easy access to both the front and rear compartments, enabling rapid loading and unloading – vital for a swift turnaround at busy airports.

First five-seat abreast
The SSJ100 is the first aircraft in its class with five-abreast seating, a configuration that offers more cabin space than any of its competitors. No matter where they sit – even in the middle seat – all passengers enjoy spacious accommodation.

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A sensation of space: 2m+ high cabin
Cutting the costs from design to operation. The clean-sheet design of the SSJ100 gives it an economic edge over its rivals, saving money in the air and on the ground.

- **Reducing Weight**: The optimized lightweight design of the SSJ100 not only reduces fuel consumption, but also cuts en-route charges and airport costs.

- **Engine Simplicity**: The all-new SaM146 engine has fewer moving parts than its competitors, keeping weight down and simplifying maintenance. There is a high degree of left-right compatibility between the engines, significantly reducing inventory costs. The turbine disks can even be replaced without removing the engine—yet another feature that reduces downtime and saves operating costs.

- **Lower Fuel Burn**: The SSJ100’s advanced aerodynamic design, including a supercritical wing section specifically designed for this size of aircraft, results in optimized fuel burn in the cruise. Modern engines with latest-generation FADEC contribute to the SSJ100’s outstanding fuel efficiency.

- **Lower Carbon Tax**: Environmental concerns worldwide are leading to the introduction of carbon taxes and emissions trading schemes—however, the lightweight and efficient SSJ100 offers the maximum benefit to its operators.

- **Fast Turnaround**: A spacious cabin with a wide aisle and generous seat spacing allows passengers to embark and deplane with minimum fuss. Two large cargo bay doors speed up baggage transfer, and single-point refuelling minimizes the time that the SSJ100 needs to spend on the ground between flights.

- **Design to Maintain**: From the outset, the SSJ100 has been “designed to maintain,” with the longest maintenance intervals in its class. Inbuilt advanced diagnostic tools assist engineers with routine servicing.

- **“Right-Sizing”**: The low operating costs of the SSJ100 make it perfect for operators looking to right-size their fleets to meet changing demands. The SSJ100 is also an ideal supplement to existing fleets, offering passenger comfort similar to that found on much larger aircraft.
**Performance**

<table>
<thead>
<tr>
<th>max/cruise speed (mach)</th>
<th>time to climb to FL 300</th>
<th>range (B/LR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.81 / 0.78</td>
<td>12 min</td>
<td>1645 nm / 2470 nm</td>
</tr>
</tbody>
</table>

"Hot and high" performance

Due to its optimized combination of engine and airframe, which results in an excellent thrust-to-weight ratio, the SSJ100 is able to perform very well in extreme "hot and high" conditions.

Away from the hub

The rugged SSJ100 is also well suited to short-field operations, and needs a runway width of only 21.4 m (70.21 ft) to turn round.

Going places. The performance of the light and maneuverable SSJ100 and its ability to operate safely and efficiently from small regional airports brings high levels of comfort and sophistication to routes previously served only by more basic aircraft.

Ranging far and wide. Efficient engines in a lightweight airframe extend the range and increase the number of possible routes.

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**Flying**

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environmental

reducing environmental impact and saving around 600,000 USD per year*

all atmospheric emissions down

Flying green makes financial sense – saving money on fuel and saving tax on emissions

about 1.5 tons of CO₂ less per trip emitted compared to its direct competitor

noise reduction
The high-tech long-duct nacelles carrying the SaM146 engines are designed to optimize acoustic performance, with the result that the SSJ100 meets ICAO Chapter 4 noise regulations, meaning that it is permitted to operate from any airport.

engine emissions
The powerful, compact SaM146 engine – controlled by the latest-generation FADEC system – combines a newly designed combustion chamber with a state-of-the-art high-pressure turbine, resulting in highly efficient fuel burn with emissions that comfortably exceed CAEP6 standards.

air quality
In terms of major air pollutants, the SSJ100 considerably exceeds ICAO CAEP6 standards. The SaM146 engine has been designed to meet anticipated emissions legislation, future-proofing operations of the SSJ100.

* 2500 cycles/year; 500 nm distance; CO₂ trade rate = 30 USD/ton; five-aircraft fleet

data refers to 1S17 model.
Training services: Providing world class training for safe and profitable SSJ100 operations

Customer Support Solutions:
Super-caring for the SSJ100 worldwide fleet

Flexibility: Always adapting to customers’ needs

The SSJ Training Center
Staffed by experienced international instructors and fully certified as a flight and maintenance organization by European and Russian Federation Authorities, the SSJ Training Center provides, at its Venice (Italy) and Moscow (Russian locations), a wide and flexible array of training courses to allow safe and profitable operations of the SSJ100. The Center is equipped with state-of-the-art training devices (FFS, FTDs, CEET, CBT stations and Virtual Aircraft tools).

MRO
SJI bases its MRO support strategy on a customer-focused approach, by identifying the right MRO support solution tuned to each individual airline operator’s strategy of whether to perform certain maintenance tasks in-house while outsourcing others. SJI supports all its customers either through its existing SSJ100 MRO Network, or by scouting independent MROs already linked with individual SSJ airline operators, who are able to extend their maintenance capabilities to the SSJ100 type, as well as by enabling airline operators to become self-sufficient to perform their SSJ100 maintenance in-house.

Support Warehouses
The main spares distribution center warehouse located in Frankfurt (FRA), managed by Lufthansa Technik Logistik (LTL) and equipped with state-of-the-art infrastructure, allows outstanding service levels for spares delivery. Other support warehouses, located at Moscow (SVO) and Miami (FLL), cover spare parts requirements for Russia/CIS and the Americas, respectively. Smooth SSJ100 operations are facilitated by a dedicated Customer Care Center which provides a 24/7 single point of contact for spares and technical queries.

Customer support
SJI recognizes that customers must have a strategic choice for their support requirements and helps them to choose the best strategy for their evolving business. SJI has developed a modular and flexible array of services through a single turnkey agreement, called the ‘SuperCare Plan’, which aims to maximize aircraft availability, optimize ownership cost, maintain asset value and ensure full budget control through predictable costs based on fixed rates per flight hour.

Support Warehouses

<table>
<thead>
<tr>
<th>Frankfurt</th>
<th>Spares distribution center</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moscow</td>
<td>Russian branch, Customer care center, Support warehouse</td>
</tr>
<tr>
<td>Venice</td>
<td>Headquarters, Training center, Support warehouse</td>
</tr>
<tr>
<td>Fort Lauderdale</td>
<td>Support warehouse</td>
</tr>
</tbody>
</table>

The SJI Training Center
Located in Venice (Italy) and Moscow (Russia), the SSJ Training Center provides a wide range of training courses for SSJ100 operators, ensuring safe and profitable operations.

MRO
SJI’s MRO support strategy is tailored to individual airline operators’ needs, offering in-house or outsourcing options.

Support Warehouses

- Frankfurt (FRA): Lufthansa Technik Logistik (LTL) managed warehouse
- Moscow (SVO): Russian branch, Customer care center, Support warehouse
- Venice: Headquarters, Training center, Support warehouse
- Fort Lauderdale: Support warehouse

SuperCare Plan

<table>
<thead>
<tr>
<th>Plan</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Basic SuperCare Plan</td>
<td>Basic support services</td>
</tr>
<tr>
<td>SuperCare Plan Options</td>
<td>Customizable options to suit specific needs</td>
</tr>
</tbody>
</table>
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