

Innovative cluster for innovative region!

### **Samara Aerospace Innovative Territorial Cluster**





## Samara Region on the map of Russia





### **Samara Aerospace Cluster**

Space-rocket engineering industry	Engine technology industry
Rocket Space Center "Progress" ("Soyuz" launch vehicles) Plastic, JSC (composite aircraft materials)	Kuznetsov, JSC (aircraft engines) Metallist-Samara, JSC (flame tubes and can-type combustion chamber) Salute, JSC (space-rocket components) EPK Samara, JSC (aircraft bearings)
Aircraft engineering industry	Personnel trainings
Aviacor Aviation plant, JSC (aircrafts) Aviaagregat, JSC (aircraft landing wheels) Agregat, JSC (aircraft fittings) Hydroautomatica, JSC (aircraft hydraulic components) FSUE Scientific research institute "Ecran" (aircraft avionics equipment)	Samara State Aerospace University named after academician S. Korolyov (National Research University) Samara State Technical University



### Samara Aerospace Cluster on the Russian aerospace clusters map





## JSC Rocket Space Center «Progress»

#### **SOYUZ Launch Vehicle**

Earth remote sensing satellites Resurs P, Resurs DK
Satellites of scientific purpose AIST, BION, FOTON
Upper Stages VOLGA, IKAR



### **OJSC «AVIAKOR - Aviation Plant»**



**Production of aircraft** 

**Aircraft's maintenance and repair** 

**Total number of produced aircrafts – 22.500** 



## Aerospace Cluster - complete cycle of production & testing of aerospace equipment

### **OJSC "KUZNETSOV"**

Liquid fuel rocket engines

Aviation engines

Gas-turbine power plants

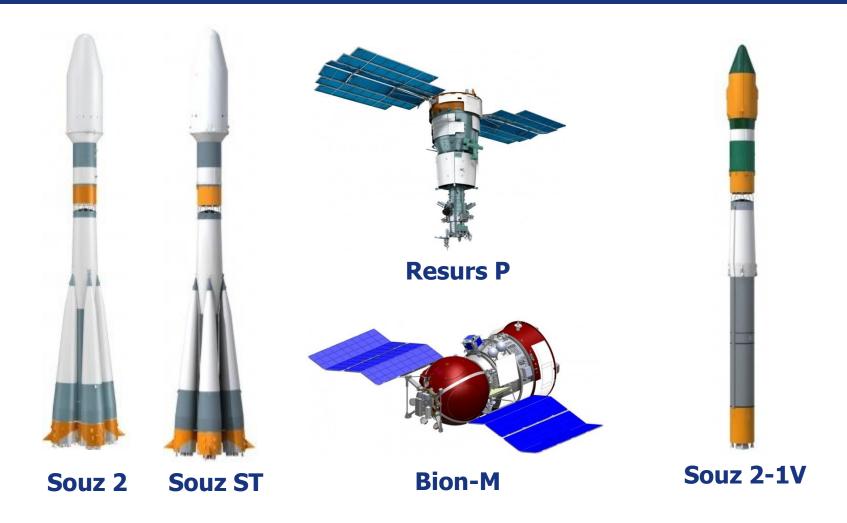
Engines for innovative transport





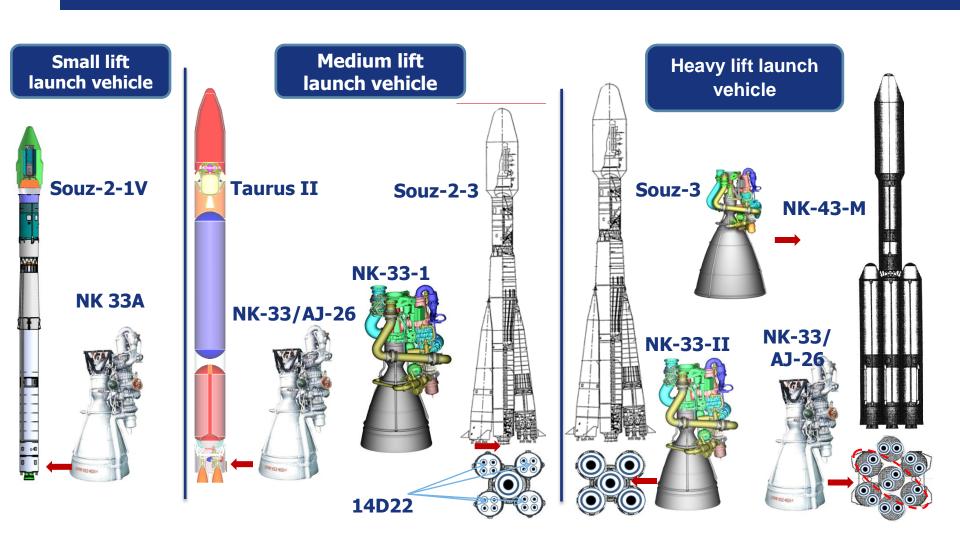


## Major products of Rocket Space Center «Progress»





## Major products of OJSC "KUZNETSOV"





### Products of OJSC "KUZNETSOV" for innovative transport



### **NK-361** for gas turbine locomotive

### gas turbine locomotive GT-1

Power - 8.300 kW Speed - 100 km/h Between gas stations - 750 km 16.000 tons & 170 train cars Mass production - 08.2013





### **Aircraft sub-cluster**









An-140 turboprop aircraft
An-140T transport configuration
An-140C cargo configuration
Tu-154 overhaul
An-140, Tu-154, An-72/74 MRO
IL-114 (perspective project)



**Spare and component parts production** 











### Aircraft sub-cluster / general aviation



amphibious aircraft



Regional aircraft with a capacity of 8 to 21 passengers













## Major cluster project for cooperation

Earth remote sensing



Space level" Earth remote sensing satellites

hyper-spectral dates

"Air level"

**Aircraft** laboratories

air photography



"Earth level"

**Physic-chemical laboratories** 

standards data base

**Small enterprises** 

processing & promotion of hyperspectral information

**Processing hyper-spectral information system** 



## Small spacecraft manufacturing and cooperation

## Cooperation in design of small spacecraft

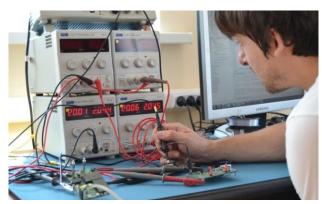


AIST small spacecraft

# Expanding the possibilities of SOYUZ launch vehicle's third stage for nanosatellites



## Cluster nanosatellites laboratory







**PLM/PDM-center** 

Small spacecraft center

Hyper spectral analysis laboratory

## **Network engineering center of Samara Aerospace cluster**

Center of design of equipment

Air laboratory for Earth remote sensing

Center of Innovative technologies on CNC machine

Center of noncontact measurements



### **INTERNATIONAL SPACE COOPERATION**



**«Soyuz-Kourou» project** (French Guiana)



NASA

Partnership with EADS in GALILEO satellite system development

Partnership with NASA in development & testing of rocket engines





Cooperation with leading European aerospace clusters in researching & developing











## National partnership of aerospace clusters



Samara Innovative Aerospace Cluster



Innovative Cluster of Gas-turbine and power engineering



Innovative technologies cluster "Zheleznogorsk"



Cluster "Ulianovsk Avia"



Innovative cluster of rocket engines manufacturing "Technopolis "Novyi Zvezdnyi"



Number of actors 189

Number of employees 135.000

R&D > 7 billion Rub.



### **EPAC** – legal body

Registered on June 27, 2013 by the Russian Federation Ministry of Justice as an international non-profit partnership

### **EPAC** is a cluster of Clusters

### **Declared on EPAC membership**

### **Aerospace clusters of Russian regions:**

Moscow region (Skolkovo), Samara region Yaroslavl region, Ulyanovsk region, Novosibirsk region, Krasnoyarsk Territory, Khabarovsk Territory

With CIS states clusters EPAC could gather more than 20 clusters

### **EU** aerospace clusters:

Pôle Pégase, ASIS

### **Organizations and Associations:**

International union of instrument & ITT engineers, Vneshaviakosmos, Vector NG









### **Contact information**

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