

## **The Story of SuitSat-1 and ARISSat-1**

My mother is 94 years old. That perhaps seems an unimportant piece of information; however, think about what she has seen in her lifetime. As a young girl growing up in Chicago milk was delivered by horse drawn wagons. Children played a multitude of outdoor games. My mom being somewhat of a “tomboy” climbed trees, played baseball with her brother and his friends, and leaped over fences. On occasion when they wanted to go downtown they would simply hop onto the back of a passing horse drawn wagon. They raised rabbits in their back yard and were occasionally thrilled when a strange aircraft came soaring just above them, the pilot leaning out, yelling and waving at them and tossing out candy! And what a thrill it was to ride in her uncle’s new car. Unfortunately her mother made them all get out and walk when her thrill seeking brother sped up to a frightening 30 miles per hour!

My how the world has changed in those short 94 years. Do you see many children today playing out in the street or yard? No, they’re probably inside watching television, talking on the phone, or sitting in front of a computer catching up on the latest chat room gossip. Walking? That is no longer popular. Everyone has to ride in a car even if it’s to visit a neighbor 3 blocks down the street. And planes? The evolution of the plane has been mind spinning. From a small one seater to a monster carrying 300 passengers. They no longer sputter along, instead they soar and roar! In mom’s day going on a train trip to Florida was a great adventure. Today we’re talking about going back to the Moon and onward to Mars! Children in mom’s day thrilled at looking at snapshots of the Grand Canyon. Today we are unruffled as we gaze at photos of distant planets and galaxies. Everything today is bigger, faster, and of course so much more complicated. So how did we get here in only 94 years?

It took a long line of tinkers, dreamers, creative and imaginative people, people who would not accept the word “impossible”. These people were not necessarily academically brilliant. They were people with a dream who had the courage and drive to push forward no matter what obstacles they encountered or what negative publicity they were subjected to. So people like Edison, Ford, the Wright Brothers, Glenn Curtis, Goddard, and Hubble are just a few who brought us to where we are today.

And what about tomorrow? Do we have any courageous forward looking creative and imaginative people today? The answer is YES! What about SuitSat-1 and ARISSat-1?

The idea for SuitSat was first conceived by the ARISS –Russia team led by Sergei Samburov. It was developed by a joint US/Russian team guided by ARISS International Chairman Frank Bauer in 2004.

“A space suit floats alone through the empty space above Earth. It floats away from the International Space Station. It sends radio signals to the planet below. On the ground people get the signal and hear a voice. The voice they hear from space belongs to a child.” This was a description appearing on the NASA web page. Sounding something like a science fiction story this was really a group project by ARISS (Amateur Radio on the International Space Station), amateur radio groups and space agencies around the world, including NASA.

Basically, SuitSat was built using an old Russian Orlan space suit. It carried a radio to send signals to Earth and sensors to keep up with how it was doing. It also carried recordings and a computer disc containing over 300 items sent in by children around the world. These included such things as creative artwork, student names, class and group pictures, and logos of schools and scout troops. Students on Earth listened to the signals SuitSat sent out. The signals included special words recorded in many different languages. SuitSat was launched from the ISS early in 2006 and proved to be a tremendous success. Students around the world loved the science fiction aspect of SuitSat-1.

So what is next? Why ARISSat-1, of course! Although ARISSat-1 will not use an Orlan space suit it will contain many more features. It will transmit not only voice messages but slow-scan TV and Morse code. It will also carry solar panels that will energize the hardware and recharge SuitSat’s batteries. NASA hopes students around the world will listen to the messages being sent out by this “visitor in space”.

***Look for ARISSat-1 appearing in the skies sometime later this year.***

\*Activity: ***I REMEMBER WHEN***

Spend some time talking with your students about what they do during their free time. You might share with them the things you did when you were a child. Bring in a few pictures of today's popular sports, technologies, popular characters, games, foods, etc. Then try to find some things that you enjoyed when you were their age. Ask them about their grandparents or great grandparents. What do they think their lives were like? What games did they play? What kind of toys did they enjoy? What kind of technology existed then? Telephone? Television? Automobiles? Planes? Computers?

Suggest your students do an interview of their grandparents or great grandparents. You might supply a list of questions to ask or simply give your students a general guideline. Ask them to include photos or drawings if possible. You might even take this a little further and have a Grandparent's Day in your class. Students could read the interviews they wrote and share with their grandparents possibly a poem or a piece of artwork they did for them. This is a great way to build memories for your students.

If you have a student who does not have a grandparent perhaps they can find another elderly relative or neighbor who might enjoy being interviewed. Later you can create a "time line" of pictures and photos and display them in your classroom. That way children will see a little of how technology has changed over the years and how those changes impacted the lives of the people in each generation.