



1
00:00:09,250 --> 00:00:06,849
Sergei krikalev flight engineer for

2
00:00:10,959 --> 00:00:09,260
expedition 1 the director now of the

3
00:00:12,879 --> 00:00:10,969
Gagarin cosmonaut training center in

4
00:00:16,209 --> 00:00:12,889
Star City Russia Sergey thank you very

5
00:00:17,950 --> 00:00:16,219
much for joining us today it's hard to

6
00:00:19,870 --> 00:00:17,960
believe it's been 10 years since you and

7
00:00:24,519 --> 00:00:19,880
Bill Sheppard and Yuri get Zenko

8
00:00:26,740 --> 00:00:24,529
launched on the soyuz tma scraf to the

9
00:00:29,139 --> 00:00:26,750
international space station from here in

10
00:00:31,659 --> 00:00:29,149
Baikonur to be in that first mission the

11
00:00:35,260 --> 00:00:31,669
first occupancy of the station that has

12
00:00:38,140 --> 00:00:35,270
begun unbroken permanent human occupancy

13
00:00:40,840 --> 00:00:38,150

of the space station tell us your

14

00:00:44,050 --> 00:00:40,850

thoughts as you look back on October

15

00:00:45,430 --> 00:00:44,060

31st 2000 when the three of you climbed

16

00:00:51,310 --> 00:00:45,440

aboard what were your thoughts at that

17

00:00:55,990 --> 00:00:51,320

time a great deal came to my the main

18

00:00:58,569 --> 00:00:56,000

thought I had was that now it's starting

19

00:01:01,750 --> 00:00:58,579

for real a long chain of expeditions

20

00:01:03,280 --> 00:01:01,760

this is our first work oftentimes it's

21

00:01:07,590 --> 00:01:03,290

the way you started the way it's going

22

00:01:12,100 --> 00:01:07,600

to go now so I felt a huge load of

23

00:01:14,020 --> 00:01:12,110

responsibility then about responsibility

24

00:01:18,250 --> 00:01:14,030

for what we're going to do however into

25

00:01:20,289 --> 00:01:18,260

begins what is going to come out was

26

00:01:23,500 --> 00:01:20,299

especially critical then because that

27

00:01:25,920 --> 00:01:23,510

was the first day of a human being when

28

00:01:29,230 --> 00:01:25,930

born that was constrained by the

29

00:01:31,780 --> 00:01:29,240

availability of the systems for

30

00:01:35,260 --> 00:01:31,790

life-support onboard the station and it

31

00:01:37,870 --> 00:01:35,270

was critical to stay in station and not

32

00:01:42,160 --> 00:01:37,880

to live the moment of exhausting those

33

00:01:45,270 --> 00:01:42,170

resources in addition to the beginning

34

00:01:50,070 --> 00:01:47,940

we start that would have supported the

35

00:01:50,940 --> 00:01:50,080

functioning of human being onboard the

36

00:01:53,250 --> 00:01:50,950

station

37

00:01:55,380 --> 00:01:53,260

a two-day flight from the launch pad

38

00:01:57,510 --> 00:01:55,390

here in Baikonur to the International

39

00:02:00,840 --> 00:01:57,520

Space Station and then you finally

40

00:02:03,780 --> 00:02:00,850

arrived you dock and you prepare to open

41

00:02:06,330 --> 00:02:03,790

up the hatches as as the three of you

42

00:02:08,430 --> 00:02:06,340

opened the hatch to the station for the

43

00:02:10,949 --> 00:02:08,440

first time and floated inside

44

00:02:13,650 --> 00:02:10,959

I remember that you all you grasp each

45

00:02:16,980 --> 00:02:13,660

other's hands in jubilation you're very

46

00:02:18,630 --> 00:02:16,990

happy to arrive on the station did you

47

00:02:20,310 --> 00:02:18,640

have a sense of history that this was a

48

00:02:21,810 --> 00:02:20,320

very historic moment that you were

49

00:02:28,229 --> 00:02:21,820

beginning a new chapter in human

50

00:02:31,699 --> 00:02:28,239

spaceflight it was of course we did

51
00:02:34,530 --> 00:02:31,709
understand that was the beginning

52
00:02:36,240 --> 00:02:34,540
although frankly that was the second

53
00:02:38,130 --> 00:02:36,250
opening of the hatch because the first

54
00:02:43,830 --> 00:02:38,140
time I opened the hatch was between the

55
00:02:45,690 --> 00:02:43,840
FGB in the node expedition sts-88 we

56
00:02:47,640 --> 00:02:45,700
entered the station for the first time

57
00:02:50,160 --> 00:02:47,650
the station was very small then it was

58
00:02:53,910 --> 00:02:50,170
only a GB in the node and though it was

59
00:02:57,150 --> 00:02:53,920
the first entry and for me this one was

60
00:02:59,460 --> 00:02:57,160
sort of a research station but returning

61
00:03:00,900 --> 00:02:59,470
as a member of the expedition and of

62
00:03:02,789 --> 00:03:00,910
course as you as you point out the

63
00:03:05,910 --> 00:03:02,799

station it was it was an infant at the

64

00:03:10,620 --> 00:03:05,920

time very primitive very simple just a

65

00:03:12,780 --> 00:03:10,630

couple of modules it's no significant

66

00:03:17,729 --> 00:03:12,790

infrastructure to the station at that

67

00:03:20,460 --> 00:03:17,739

time technically did you feel as if you

68

00:03:23,940 --> 00:03:20,470

were pioneers in a sense in this

69

00:03:30,560 --> 00:03:23,950

brand-new facility how primitive was it

70

00:03:35,880 --> 00:03:30,570

what was day-to-day living life work was

71

00:03:38,430 --> 00:03:35,890

close to usual because I used to live at

72

00:03:42,210 --> 00:03:38,440

the station for many months at the MIR

73

00:03:44,220 --> 00:03:42,220

station the thing that was unusual was

74

00:03:46,650 --> 00:03:44,230

that we would have to open the station

75

00:03:48,660 --> 00:03:46,660

turn the light on install television

76

00:03:50,580 --> 00:03:48,670

find all the cables that were hidden

77

00:03:53,559 --> 00:03:50,590

behind the

78

00:03:56,770 --> 00:03:53,569

and although the station was small it

79

00:04:01,000 --> 00:03:56,780

had a full set of all the necessary life

80

00:04:03,339 --> 00:04:01,010

supports they were just in activated and

81

00:04:05,890 --> 00:04:03,349

we had to put some of them together and

82

00:04:10,509 --> 00:04:05,900

start operating on the station

83

00:04:12,250 --> 00:04:10,519

activation there was a question on

84

00:04:14,589 --> 00:04:12,260

experiments and what were the most

85

00:04:17,529 --> 00:04:14,599

interesting experiments I would always

86

00:04:20,199 --> 00:04:17,539

say the most the greatest experiment was

87

00:04:21,870 --> 00:04:20,209

the assembly and revival of the station

88

00:04:26,050 --> 00:04:21,880

making it come to life

89

00:04:29,230 --> 00:04:26,060

Sergey as you mentioned arriving with

90

00:04:31,480 --> 00:04:29,240

expedition 1 in November of 2000

91

00:04:34,330 --> 00:04:31,490

actually marked your second arrival on

92

00:04:35,860 --> 00:04:34,340

the station after sts-88 which was the

93

00:04:39,700 --> 00:04:35,870

first assembly flight of course for the

94

00:04:43,029 --> 00:04:39,710

complex for you some sense of

95

00:04:45,129 --> 00:04:43,039

familiarity how did you convey to both

96

00:04:47,230 --> 00:04:45,139

Bill Sheppard and arrogance anko what it

97

00:04:54,070 --> 00:04:47,240

was going to be like once you arrived on

98

00:04:57,909 --> 00:04:54,080

board in reality we all knew what was

99

00:05:01,240 --> 00:04:57,919

supposed to be there the training was

100

00:05:04,960 --> 00:05:01,250

very long it was very detailed very

101
00:05:06,640 --> 00:05:04,970
important acerra ly too involved so we

102
00:05:10,300 --> 00:05:06,650
had a pretty good idea what we were

103
00:05:13,120 --> 00:05:10,310
going to encounter it was interesting to

104
00:05:15,730 --> 00:05:13,130
have a sense to have a few of the new

105
00:05:20,310 --> 00:05:15,740
orders a new way of life on the station

106
00:05:22,270 --> 00:05:20,320
because the station itself was

107
00:05:25,930 --> 00:05:22,280
international and it had international

108
00:05:27,550 --> 00:05:25,940
crew from the very beginning it was

109
00:05:30,930 --> 00:05:27,560
interesting to work with the two Mission

110
00:05:34,210 --> 00:05:30,940
Control centers and under their guidance

111
00:05:37,089 --> 00:05:34,220
coming back to the station we were

112
00:05:40,600 --> 00:05:37,099
coming back with new quality in a new

113
00:05:43,779 --> 00:05:40,610

role and again did you feel as if you

114

00:05:46,600 --> 00:05:43,789

were pioneers in a sense this starting

115

00:05:48,610 --> 00:05:46,610

an international process here that was

116

00:05:55,300 --> 00:05:48,620

going to be unprecedented in spaceflight

117

00:05:57,950 --> 00:05:55,310

history moment we were thinking of the

118

00:06:01,080 --> 00:05:57,960

present and the moment we were in

119

00:06:04,020 --> 00:06:01,090

although subconsciously we understood

120

00:06:06,210 --> 00:06:04,030

that that was a certain threshold that

121

00:06:06,540 --> 00:06:06,220

we were supposed to cross ten years

122

00:06:09,060 --> 00:06:06,550

later

123

00:06:11,940 --> 00:06:09,070

Space Station has grown into a massive

124

00:06:14,340 --> 00:06:11,950

complex visible in the night sky very

125

00:06:17,780 --> 00:06:14,350

easily on a clear night capable of

126

00:06:20,370 --> 00:06:17,790

supporting six people as we see today

127

00:06:23,180 --> 00:06:20,380

did is this the space station that you

128

00:06:27,680 --> 00:06:23,190

had envisioned ten years ago when

129

00:06:34,650 --> 00:06:30,600

yes almost like that we had the days

130

00:06:36,780 --> 00:06:34,660

here similar to the one in the Nexus the

131

00:06:41,270 --> 00:06:36,790

only thing is we didn't anticipate the

132

00:06:43,740 --> 00:06:41,280

same configuration and five years ago I

133

00:06:48,390 --> 00:06:43,750

expected that the station would have

134

00:06:50,160 --> 00:06:48,400

been fully assembled and I would have

135

00:06:52,970 --> 00:06:50,170

preferred to work on a more

136

00:06:55,350 --> 00:06:52,980

sophisticated equipment but

137

00:06:58,530 --> 00:06:55,360

unfortunately the Assembly of the

138

00:07:05,180 --> 00:06:58,540

station happened as it happened the

139

00:07:14,990 --> 00:07:12,030

period Julie is quite understandable and

140

00:07:17,460 --> 00:07:15,000

now the station is virtually assemble

141

00:07:19,170 --> 00:07:17,470

one of the elements that we wanted to

142

00:07:22,050 --> 00:07:19,180

see on this station from the very start

143

00:07:25,860 --> 00:07:22,060

already is present there and I know that

144

00:07:28,830 --> 00:07:25,870

the cost but not some enjoy the view of

145

00:07:31,260 --> 00:07:28,840

the space I get I get the sense that

146

00:07:34,350 --> 00:07:31,270

you'd almost like to go back again is

147

00:07:36,720 --> 00:07:34,360

that something that you ever might do

148

00:07:38,820 --> 00:07:36,730

again or or your flying days

149

00:07:41,400 --> 00:07:38,830

yeah my views I hope their accession

150

00:07:43,440 --> 00:07:41,410

opportunity buisness it would be

151
00:07:46,230 --> 00:07:43,450
interesting to be at the station when

152
00:07:47,820 --> 00:07:46,240
it's fully assembled finally because

153
00:07:51,510 --> 00:07:47,830
when I was there there was only two

154
00:07:55,530 --> 00:07:51,520
there were only two elements was the

155
00:08:03,840 --> 00:07:55,540
first wave expedition I remember some

156
00:08:05,580 --> 00:08:03,850
questions which what would you like and

157
00:08:07,980 --> 00:08:05,590
I would say I would like it to grow

158
00:08:09,500 --> 00:08:07,990
bigger now it has grown bigger there are

159
00:08:11,430 --> 00:08:09,510
many people who think that the

160
00:08:12,420 --> 00:08:11,440
construction of the space station to

161
00:08:15,090 --> 00:08:12,430
what it is today

162
00:08:16,890 --> 00:08:15,100
it may be the greatest accomplishment in

163
00:08:18,480 --> 00:08:16,900

the history of human spaceflight and

164

00:08:22,040 --> 00:08:18,490

that includes the moon landings because

165

00:08:23,880 --> 00:08:22,050

of the complexity involved in your mind

166

00:08:26,990 --> 00:08:23,890

do you see it that way

167

00:08:50,730 --> 00:08:27,000

has the station fulfilled its potential

168

00:08:56,490 --> 00:08:50,740

yet to fulfill its scientific

169

00:08:59,430 --> 00:08:56,500

experimental results was focusing on

170

00:09:01,860 --> 00:08:59,440

from the very first flight the biggest

171

00:09:04,500 --> 00:09:01,870

experiment is the building in the

172

00:09:09,540 --> 00:09:04,510

Assembly of the station and the greatest

173

00:09:12,570 --> 00:09:09,550

achievement is in spite of international

174

00:09:18,330 --> 00:09:12,580

cooperation the building of the station

175

00:09:22,530 --> 00:09:18,340

continued stages and right now we're at

176

00:09:27,420 --> 00:09:22,540

the stage where is the final completion

177

00:09:29,970 --> 00:09:27,430

stage virtually speaking the very fact

178

00:09:32,850 --> 00:09:29,980

that that project came came to life and

179

00:09:36,750 --> 00:09:32,860

was and actually was accomplished is the

180

00:09:39,870 --> 00:09:36,760

greatest achievement last year for the

181

00:09:41,880 --> 00:09:39,880

first time all the partner agencies were

182

00:09:44,220 --> 00:09:41,890

represented at one time aboard the

183

00:09:47,400 --> 00:09:44,230

International Space Station a true

184

00:09:48,720 --> 00:09:47,410

symbol of international cooperation how

185

00:09:51,009 --> 00:09:48,730

impressed are you

186

00:09:53,499 --> 00:09:51,019

nobody's flown in space for as many days

187

00:09:57,819 --> 00:09:53,509

as you how impressed are you that the

188

00:10:00,670 --> 00:09:57,829

station has overcome language technical

189

00:10:03,069 --> 00:10:00,680

cultural differences between the

190

00:10:11,019 --> 00:10:03,079

countries the various countries to be as

191

00:10:14,919 --> 00:10:11,029

successful as it has been it was a goal

192

00:10:17,379 --> 00:10:14,929

it was a dream and we thought that

193

00:10:20,169 --> 00:10:17,389

that's exactly the way the work should

194

00:10:22,809 --> 00:10:20,179

get done on the station and that's the

195

00:10:25,329 --> 00:10:22,819

way it should continue and so in our

196

00:10:27,160 --> 00:10:25,339

thoughts we have decided a long time ago

197

00:10:28,989 --> 00:10:27,170

that that was the normal course of

198

00:10:31,919 --> 00:10:28,999

events that the specialists of different

199

00:10:35,350 --> 00:10:31,929

countries would be working together

200

00:10:36,819 --> 00:10:35,360

because we used to work to collaborate

201
00:10:41,199 --> 00:10:36,829
with the traditional partners of

202
00:10:44,889 --> 00:10:41,209
multilateral levels and it's turned into

203
00:10:47,710 --> 00:10:44,899
a qualitatively new level and I think

204
00:10:49,210 --> 00:10:47,720
that's the way it was supposed to be you

205
00:10:52,269 --> 00:10:49,220
know what happens when you wait for

206
00:10:54,419 --> 00:10:52,279
something for a long time then it seems

207
00:10:56,980 --> 00:10:54,429
to you that it's already happening so

208
00:11:00,999 --> 00:10:56,990
from my point I don't think there's

209
00:11:03,280 --> 00:11:01,009
anything unusual about that in your mind

210
00:11:05,590 --> 00:11:03,290
what do you see is the International

211
00:11:08,110 --> 00:11:05,600
Space Station as a next step to go

212
00:11:10,179 --> 00:11:08,120
beyond low-earth orbit low-earth orbit

213
00:11:11,769 --> 00:11:10,189

how do you see the station as a as a

214

00:11:17,769 --> 00:11:11,779

forerunner for future spaceflight

215

00:11:20,650 --> 00:11:17,779

activities beautiful in the same ways

216

00:11:25,809 --> 00:11:20,660

with the MIR station so stations that

217

00:11:30,669 --> 00:11:25,819

you support space flights are a basis a

218

00:11:33,639 --> 00:11:30,679

foundation for them for any remote

219

00:11:38,710 --> 00:11:33,649

missions because remote missions tend to

220

00:11:42,340 --> 00:11:38,720

be lengthy we have learned to fly for a

221

00:11:44,439 --> 00:11:42,350

long time and to support life onward for

222

00:11:52,660 --> 00:11:44,449

a long time and we learned how to build

223

00:12:00,230 --> 00:11:55,400

that will provide further development of

224

00:12:02,990 --> 00:12:00,240

international cooperation we have some

225

00:12:06,889 --> 00:12:03,000

doubts whether we would be able to built

226

00:12:08,660 --> 00:12:06,899

in significant projects together and see

227

00:12:10,190 --> 00:12:08,670

whether we'll be able to complete them

228

00:12:19,100 --> 00:12:10,200

and the station is a good illustration

229

00:12:21,610 --> 00:12:19,110

that were capable of doing the most

230

00:12:26,050 --> 00:12:21,620

important thing is developing certain

231

00:12:33,410 --> 00:12:29,530

developing mechanisms of obtaining them

232

00:12:38,420 --> 00:12:33,420

and in reality you can do it all on the

233

00:12:45,350 --> 00:12:38,430

station right now there is a remote mode

234

00:12:47,420 --> 00:12:45,360

of interchange at the start where the

235

00:12:50,900 --> 00:12:47,430

communication sessions happen only when

236

00:12:52,519 --> 00:12:50,910

it's necessary and autonomous measures

237

00:12:59,540 --> 00:12:52,529

can be worked out of the station

238

00:13:03,290 --> 00:12:59,550

autonomous standalone actions complexes

239

00:13:06,470 --> 00:13:03,300

are matter of the future Sergei if

240

00:13:09,650 --> 00:13:06,480

somebody told you I want you to write

241

00:13:12,530 --> 00:13:09,660

the history of human spaceflight what

242

00:13:17,810 --> 00:13:12,540

place in history with the international

243

00:13:25,250 --> 00:13:20,630

yeah when your card for me to prioritize

244

00:13:27,769 --> 00:13:25,260

what is more important of course

245

00:13:31,820 --> 00:13:27,779

the events at first the launch of the

246

00:13:33,920 --> 00:13:31,830

first satellite or the first extra

247

00:13:37,069 --> 00:13:33,930

vehicular accidents or a flight to the

248

00:13:38,780 --> 00:13:37,079

moon these are most very important steps

249

00:13:46,699 --> 00:13:38,790

and without those steps it would be

250

00:13:54,500 --> 00:13:46,709

impossible to achieve further are a part

251
00:13:58,759 --> 00:13:54,510
of the chain of events also the success

252
00:14:02,930 --> 00:13:58,769
today with respect to the fact that we

253
00:14:13,100 --> 00:14:02,940
were able to do it all together this is

254
00:14:15,019 --> 00:14:13,110
one of the few in of the exploration if

255
00:14:20,210 --> 00:14:15,029
I were to prioritize I would prioritize

256
00:14:21,980 --> 00:14:20,220
the events chronologically years down

257
00:14:23,900 --> 00:14:21,990
the road one clue one would be able to

258
00:14:27,560 --> 00:14:23,910
reevaluate the importance of each

259
00:14:30,560 --> 00:14:27,570
individual event we're just a few months

260
00:14:33,050 --> 00:14:30,570
away from an extremely historic

261
00:14:35,360 --> 00:14:33,060
anniversary the 50th anniversary of Yuri

262
00:14:37,430 --> 00:14:35,370
Gagarin launching not far from where

263
00:14:39,050 --> 00:14:37,440

we're sitting to become the first human

264

00:14:43,010 --> 00:14:39,060

in space it certainly changed the world

265

00:14:47,210 --> 00:14:43,020

forever in your mind what was the

266

00:14:51,010 --> 00:14:47,220

significance of that flight and the

267

00:14:53,990 --> 00:14:51,020

significance of where we've come in

268

00:14:57,950 --> 00:14:54,000

space exploration exploration in general

269

00:15:04,160 --> 00:15:01,550

machine significance of recurrence

270

00:15:08,000 --> 00:15:04,170

flight speaks for itself

271

00:15:14,030 --> 00:15:08,010

it was the first flight uncertainty

272

00:15:16,070 --> 00:15:14,040

right now it may appear a trivial those

273

00:15:23,480 --> 00:15:16,080

tears that were given to the first

274

00:15:26,420 --> 00:15:23,490

cosmonaut they were it really was from

275

00:15:31,940 --> 00:15:26,430

the modern point of view but so critical

276

00:15:35,420 --> 00:15:31,950

from that time went to try and swallow

277

00:15:37,880 --> 00:15:35,430

to try and dream nobody was certain that

278

00:15:40,820 --> 00:15:37,890

a person could have steady breathing in

279

00:15:43,750 --> 00:15:40,830

that stage or nobody had a hundred

280

00:15:46,280 --> 00:15:43,760

percent confidence the person would be

281

00:16:00,610 --> 00:15:46,290

psychologically stable in the state of

282

00:16:05,930 --> 00:16:03,350

nothing else would have been possible in

283

00:16:08,530 --> 00:16:05,940

the future soldier the guren flight is a

284

00:16:11,900 --> 00:16:08,540

great event in the russian space

285

00:16:16,010 --> 00:16:11,910

exploration history and it has allowed

286

00:16:17,990 --> 00:16:16,020

us internationally to make further steps

287

00:16:20,780 --> 00:16:18,000

because we understood that the first one

288

00:16:22,610 --> 00:16:20,790

was possible sergei krikalev thank you

289

00:16:23,900 --> 00:16:22,620

so much for taking the time we

290

00:16:26,269 --> 00:16:23,910

appreciate it very much and

291

00:16:28,040 --> 00:16:26,279

congratulations ten years since