1
00:00:18,890 --> 00:00:25,140
well Matthew and I will present godo

2
00:00:22,259 --> 00:00:33,149
enterprises limited and Sergeant

3
00:00:25,140 --> 00:00:35,520
enterprises limited we shall be

4
00:00:33,149 --> 00:00:38,939
presenting an explanation on the concept

5
00:00:35,520 --> 00:00:52,109
of the Spiteri water pump it is a prime

6
00:00:38,939 --> 00:00:54,808
mover machine and here we're using it as

7
00:00:52,109 --> 00:01:00,289
an apparatus for conversion of energy

8
00:00:54,808 --> 00:01:00,289
from hydraulic energy to kinetic energy

9
00:01:08,060 --> 00:01:13,500
the unique selling point and

10
00:01:10,530 --> 00:01:17,129
characteristic of this machine is that

11
00:01:13,500 --> 00:01:50,900
it will extend and facilitate the use of

12
00:01:17,129 --> 00:01:54,569
hydropower around the clock now let us

13
00:01:50,900 --> 00:01:57,469
remind ourselves of certain facts in

14
00:01:54,569 --> 00:02:01,439
science it is well established that

15
00:01:57,469 --> 00:02:05,269
energy is stored in a buoyant unit when

16
00:02:01,439 --> 00:02:05,269
it is submerged under water

17
00:02:09,288 --> 00:02:16,488
in the hello Amazo it is also well known

18
00:02:13,699 --> 00:02:20,560
that hydroelectric power is one of the

19
00:02:16,489 --> 00:02:20,560
cheapest form of producing electricity

20
00:02:25,449 --> 00:02:38,119
we are also very conscious that gravity

21
00:02:28,639 --> 00:02:42,649
is always present and the last thing

22
00:02:38,120 --> 00:02:46,099
that that I used is this in any body of

23
00:02:42,650 --> 00:02:52,180
water there is what water head pressure

24
00:02:46,098 --> 00:02:52,179
acting on any buoyant body under water

25
00:02:59,739 --> 00:03:07,250
and combining all these factors we have

26
00:03:03,919 --> 00:03:10,699
designed the machine that is capable of

27
00:03:07,250 --> 00:03:13,250
taking advantage of gravity and using

28
00:03:10,699 --> 00:03:27,469
the existing water head pressure as the

29

00:03:13,250 --> 00:03:30,919
driving force so this machine basically

30
00:03:27,469 --> 00:03:43,729
transfers hydraulic energy into kinetic

31
00:03:30,919 --> 00:03:47,650
energy as a result of this energy by

32
00:03:43,729 --> 00:03:51,289
pumping water an artificial waterfall is

33
00:03:47,650 --> 00:03:54,049
created from which electricity can be

34
00:03:51,289 --> 00:03:58,418
produced with the existing machinery

35
00:03:54,049 --> 00:03:58,419
like the turbine and the generator

36
00:03:59,719 --> 00:04:08,729
in 1800 this implication is that a

37
00:04:06,060 --> 00:04:11,159
country can substantially cut fossil

38
00:04:08,729 --> 00:04:28,079
fuel cost and manpower cost in the

39
00:04:11,159 --> 00:04:32,310
supply of a some background about me I

40
00:04:28,079 --> 00:04:35,339
was born in Malta in 1937 a married four

41
00:04:32,310 --> 00:04:54,949
children and four grandchildren I enjoy

42
00:04:35,339 --> 00:04:57,870
outdoor sports and my wife and I like in

43
00:04:54,949 --> 00:05:00,360

1959 I left what I went over to Canada

44
00:04:57,870 --> 00:05:03,478
joined the Royal Canadian Air Force as a

45
00:05:00,360 --> 00:05:08,240
flying officer okay where I continued my

46
00:05:03,478 --> 00:05:08,240
engineering degree with the Air Force

47
00:05:12,319 --> 00:05:17,699
then after leaving the Air Force I

48
00:05:15,029 --> 00:05:20,609
worked in drafting and designing tools

49
00:05:17,699 --> 00:05:23,728
and I and special purpose machines and

50
00:05:20,610 --> 00:05:27,090
thus gaining a wide range of engineering

51
00:05:23,728 --> 00:05:31,159
experience and in sovereign distress in

52
00:05:27,089 --> 00:05:31,159
Canada and then in in Malta

53
00:05:35,538 --> 00:05:42,028
evangelism advising Quran country

54
00:05:39,598 --> 00:05:44,759
Americans and while working in

55
00:05:42,028 --> 00:05:47,548
engineering design and my spare time I I

56
00:05:44,759 --> 00:05:55,709
did other businesses like in real estate

57
00:05:47,548 --> 00:05:57,899
to resume in the retail section well

58
00:05:55,709 --> 00:06:00,959
what started this I was in a holiday in

59
00:05:57,899 --> 00:06:04,798
Malton back in 1980 and the Prime

60
00:06:00,959 --> 00:06:08,009
Minister and his on one end of the Year

61
00:06:04,798 --> 00:06:12,228
speech said if Malta had a waterfall

62
00:06:08,009 --> 00:06:12,229
then electricity would be much cheaper

63
00:06:20,689 --> 00:06:28,649
I carried this message in my mind and

64
00:06:25,439 --> 00:06:32,819
started working on this notion time some

65
00:06:28,649 --> 00:06:35,999
ten years later knowing that only 20% of

66
00:06:32,819 --> 00:06:38,429
the whole world have waterfalls

67
00:06:35,999 --> 00:06:40,949
available to them like a motor we don't

68
00:06:38,428 --> 00:06:52,528
have any rivers or and waterfalls to

69
00:06:40,949 --> 00:06:56,278
start so with my experience in machine

70
00:06:52,528 --> 00:07:08,459
design my challenge was to create an

71
00:06:56,278 --> 00:07:11,639
artificial water forted with a very

72
00:07:08,459 --> 00:07:14,939
simple solution whereby a buoyant unit

73
00:07:11,639 --> 00:07:17,639
sitting under water was able to transfer

74
00:07:14,939 --> 00:07:19,949
hydraulic energy to actuate a pump

75
00:07:17,639 --> 00:07:22,338
thereby lifting water to a higher

76
00:07:19,949 --> 00:07:22,338
elevation

77
00:07:28,379 --> 00:07:47,199
Oh thieves but we all know this can only

78
00:07:37,300 --> 00:07:51,220
be done once we all agree we can do that

79
00:07:47,199 --> 00:07:53,229
only once it took me about 18 months to

80
00:07:51,220 --> 00:07:56,170
come up with a design that would enable

81
00:07:53,230 --> 00:07:58,750
a second and more cycles which would

82
00:07:56,170 --> 00:08:12,810
further transfer hydraulic energy to

83
00:07:58,750 --> 00:08:16,870
actuate pumps here is an overview of a

84
00:08:12,810 --> 00:08:19,509
1996 schematic video that I made that's

85
00:08:16,870 --> 00:08:22,590
the machine that will be explaining its

86

00:08:19,509 --> 00:08:25,240
harvesting energy out of this water

87
00:08:22,589 --> 00:08:28,149
transferring it by cable to this pumping

88
00:08:25,240 --> 00:08:34,500
pumping station here which will be

89
00:08:28,149 --> 00:08:34,500
pumping we're pumping it about 16 feet

90
00:08:51,889 --> 00:08:59,009
trivets I started with a force and

91
00:08:55,950 --> 00:09:01,200
energy analysis and use versa various

92
00:08:59,009 --> 00:09:04,169
consultants to work with me in this

93
00:09:01,200 --> 00:09:06,440
development of the machine I'm happy to

94
00:09:04,169 --> 00:09:10,169
say that we have a patent in Malta an

95
00:09:06,440 --> 00:09:13,140
application pending in Europe as one in

96
00:09:10,169 --> 00:09:29,069
Hong Kong for the Chinese version and

97
00:09:13,139 --> 00:09:31,830
with the WIPO the company has also a

98
00:09:29,070 --> 00:09:34,890
prototype in Malta with this prototype

99
00:09:31,830 --> 00:09:37,800
and the force and energy analysis we can

100
00:09:34,889 --> 00:09:40,590

prove to people like mechanical

101
00:09:37,799 --> 00:09:57,359
engineers good and fluid mechanics that

102
00:09:40,590 --> 00:10:03,509
the operation is valid awarded an energy

103
00:09:57,360 --> 00:10:05,730
globe in 19 2008 and it was presented to

104
00:10:03,509 --> 00:10:08,240
us at the European Parliament in

105
00:10:05,730 --> 00:10:08,240
Brussels

106
00:10:18,230 --> 00:10:25,409
nowadays for simplicity I describe this

107
00:10:21,779 --> 00:10:41,089
prime mover machine as follows to up

108
00:10:25,409 --> 00:10:45,269
thrusts simultaneously and I repeat that

109
00:10:41,090 --> 00:10:49,379
to up trusts we're allowed and up trusts

110
00:10:45,269 --> 00:10:52,829
for for each objective we have two units

111
00:10:49,379 --> 00:10:58,169
we have two up thrust into a frame a

112
00:10:52,830 --> 00:11:02,220
frame can turn over its pauses for four

113
00:10:58,169 --> 00:11:04,949
fraction of a second to restart the two

114
00:11:02,220 --> 00:11:29,009
up thrust and another flip to the other

115
00:11:04,950 --> 00:11:29,910
side a frame now the machine works all

116
00:11:29,009 --> 00:11:38,250
the time

117
00:11:29,909 --> 00:11:43,500
underwater we're start we're starting

118
00:11:38,250 --> 00:11:45,029
from the back of the design there's

119
00:11:43,500 --> 00:11:49,139
nowhere involved whatsoever

120
00:11:45,029 --> 00:11:52,259
there's nowhere whatsoever except when

121
00:11:49,139 --> 00:11:55,789
I'll mention some some airbags but

122
00:11:52,259 --> 00:11:55,789
there's no pumping of

123
00:12:06,610 --> 00:12:17,389
okay let's start with the frame now

124
00:12:12,669 --> 00:12:19,399
every operation age and age device is

125
00:12:17,389 --> 00:12:29,809
controlled the whole machine is

126
00:12:19,399 --> 00:12:32,299
controlled all the time we start a frame

127
00:12:29,809 --> 00:12:44,559
we have two plates these are all

128
00:12:32,299 --> 00:12:56,870
rounding so we call this the tool inner

129
00:12:44,559 --> 00:13:04,789
chamber plates and we have two outer

130
00:12:56,870 --> 00:13:07,419
plates have been catching there is now a

131
00:13:04,789 --> 00:13:07,419
unit

132
00:13:09,970 --> 00:13:14,528
this unit have stored energy

133
00:13:17,629 --> 00:13:28,509
it's filled up with air it's replacing

134
00:13:22,578 --> 00:13:28,509
the same volume of water vias and

135
00:13:29,589 --> 00:13:36,529
normally if nothing if nobody touches

136
00:13:33,620 --> 00:13:46,730
that we'll go go up right up to the

137
00:13:36,528 --> 00:13:51,039
surface so everybody knows that now just

138
00:13:46,730 --> 00:13:53,959
a little technical technicality that

139
00:13:51,039 --> 00:13:57,349
buoyant body goes up because there is a

140
00:13:53,958 --> 00:14:21,799
pressure acting on this upper face and

141
00:13:57,350 --> 00:14:24,440
there is pressure acting on this so the

142
00:14:21,799 --> 00:14:26,929
first thing we do we don't let that

143

00:14:24,440 --> 00:14:40,069
buoyant body reach the surface and we

144
00:14:26,929 --> 00:14:43,689
move it to so this is buoyant body can

145
00:14:40,068 --> 00:14:43,689
only travel from here to there

146
00:14:52,198 --> 00:14:58,558
so as we said if that if that goes up we

147
00:14:56,619 --> 00:15:06,158
spend our only chance

148
00:14:58,558 --> 00:15:10,808
so we'll bring in another unit now this

149
00:15:06,158 --> 00:15:17,288
unit is composed of a tank which is

150
00:15:10,808 --> 00:15:20,678
filled with water and it's connected by

151
00:15:17,288 --> 00:15:29,678
three hollow tubes here we only see one

152
00:15:20,678 --> 00:15:35,259
but usually we have three and this tank

153
00:15:29,678 --> 00:15:37,389
is welded to these hollow tubes to two

154
00:15:35,259 --> 00:15:41,668
air bags there is an air bag here this

155
00:15:37,389 --> 00:15:41,668
is full of air and this is full of air

156
00:15:48,778 --> 00:15:57,308
now if you let this unit the way it is

157
00:15:52,869 --> 00:16:00,819

in open water it will not rise unless

158
00:15:57,308 --> 00:16:04,618
you have enough air in here more than

159
00:16:00,818 --> 00:16:04,618
the total weight in here

160
00:16:15,409 --> 00:16:25,980
but the breakthrough and the design

161
00:16:19,169 --> 00:16:29,849
comes here yes we enclosed this air back

162
00:16:25,980 --> 00:16:33,269
right up to this airbag and then here

163
00:16:29,850 --> 00:16:38,490
we'll see later on by either piston and

164
00:16:33,269 --> 00:16:42,299
cylinder or by bellows so if we close

165
00:16:38,490 --> 00:16:46,560
here now we have pressure acting only on

166
00:16:42,299 --> 00:16:49,199
top of that face and on top and on at

167
00:16:46,559 --> 00:16:51,989
the bottom of this face only so the

168
00:16:49,200 --> 00:16:56,579
outside water is not allowed to either

169
00:16:51,990 --> 00:16:59,879
touch this this unit here the outside

170
00:16:56,578 --> 00:17:21,448
water and the big tank is not allowed to

171
00:16:59,879 --> 00:17:25,289
touch and this unit works is controlled

172
00:17:21,449 --> 00:17:27,740
between this outer plate and this outer

173
00:17:25,289 --> 00:17:27,740
plate

174
00:17:39,170 --> 00:17:50,000
so right now both units are sucked on

175
00:17:44,059 --> 00:17:53,569
this chamber for the first unit and this

176
00:17:50,000 --> 00:17:56,750
is sucked in here for the second unit so

177
00:17:53,569 --> 00:17:59,419
on this there is pressure acting down in

178
00:17:56,750 --> 00:18:02,630
here and on this unit there's pressure

179
00:17:59,420 --> 00:18:22,550
acting down this water outside water is

180
00:18:02,630 --> 00:18:41,180
free to flow now we start we start

181
00:18:22,549 --> 00:18:44,899
putting out the lower bellow so if you

182
00:18:41,180 --> 00:18:48,670
see this is a green bellow there is a

183
00:18:44,900 --> 00:18:54,950
red balloon here so when we start up the

184
00:18:48,670 --> 00:18:58,490
dioptres like Tehran so so this is

185
00:18:54,950 --> 00:19:02,299
extended and we're showing the green

186
00:18:58,490 --> 00:19:04,339
bellow so we have sorry a red barrel so

187
00:19:02,299 --> 00:19:07,419
we have the red below there and the

188
00:19:04,339 --> 00:19:07,419
green below in here

189
00:19:23,289 --> 00:19:29,599
so the machine has water inside it

190
00:19:27,019 --> 00:19:33,308
actually the water inside it is not

191
00:19:29,599 --> 00:19:33,308
doing much it's just filling up space

192
00:19:36,039 --> 00:19:43,159
later on we'll see that so the water

193
00:19:38,990 --> 00:19:46,190
inside the water the difference cannot

194
00:19:43,160 --> 00:19:50,298
touch the outside and there is a reason

195
00:19:46,190 --> 00:19:53,840
for it the water inside has less head

196
00:19:50,298 --> 00:20:08,480
pressure than the outside by the

197
00:19:53,839 --> 00:20:11,449
difference of this air back height so we

198
00:20:08,480 --> 00:20:15,740
say the the ballast mass unit which is

199
00:20:11,450 --> 00:20:24,679
the second unit is totally enclosed by

200

00:20:15,740 --> 00:20:27,798
the bellows system so by providing

201
00:20:24,679 --> 00:20:30,350
duction and applying up thrust to both

202
00:20:27,798 --> 00:20:32,740
the earther barrel that is the first

203
00:20:30,349 --> 00:20:35,709
unit and the ballast mass unit

204
00:20:32,740 --> 00:20:41,269
simultaneously at the very same moment

205
00:20:35,710 --> 00:20:45,679
the Spiteri water pump transfers distort

206
00:20:41,269 --> 00:20:48,529
the energy from the first unit and makes

207
00:20:45,679 --> 00:20:51,650
the machine top-heavy due to the

208
00:20:48,529 --> 00:20:54,819
movement upwards of the central tank of

209
00:20:51,650 --> 00:20:54,820
the second unit

210
00:20:57,480 --> 00:21:11,490
who baked Dixie you know that side I so

211
00:21:05,130 --> 00:21:14,280
here we are showing a 3d setup of the of

212
00:21:11,490 --> 00:21:20,490
the design it inclined a little of

213
00:21:14,279 --> 00:21:24,599
Center and the photo of me sitting

214
00:21:20,490 --> 00:21:34,230

beside the prototype just for scale to

215
00:21:24,599 --> 00:21:37,619
know how big it is so here we're talking

216
00:21:34,230 --> 00:21:40,279
about the the two inner plates the two

217
00:21:37,619 --> 00:21:45,149
inner plates are one here and one here

218
00:21:40,279 --> 00:21:48,808
they're held together by by tubes and we

219
00:21:45,150 --> 00:21:55,798
have a pivot right here in in the middle

220
00:21:48,808 --> 00:21:58,379
and we have Sadie's our waterways for

221
00:21:55,798 --> 00:22:17,639
this water inside in here to be

222
00:21:58,380 --> 00:22:20,580
transferred over to the other side and

223
00:22:17,640 --> 00:22:22,679
then we have the the second unit which

224
00:22:20,579 --> 00:22:25,439
is the ballast mass unit is controlled

225
00:22:22,679 --> 00:22:27,769
by the two outer plates there's one here

226
00:22:25,440 --> 00:22:31,380
and you can see the seal in there and

227
00:22:27,769 --> 00:22:35,548
there's one well it's not seen but it's

228
00:22:31,380 --> 00:22:41,940
here again it's hand with with tie rods

229
00:22:35,548 --> 00:22:44,308
so water can flow from the outside to to

230
00:22:41,940 --> 00:22:46,980
act on this surface or to act on that

231
00:22:44,308 --> 00:22:49,819
surface and to act on this surface of

232
00:22:46,980 --> 00:22:49,819
the first unit

233
00:22:51,089 --> 00:22:59,819
the last time the mother conceived

234
00:22:53,038 --> 00:23:06,359
writing all the components of this

235
00:22:59,819 --> 00:23:08,819
machine consists of three functions one

236
00:23:06,359 --> 00:23:15,329
function is the controlled use of the

237
00:23:08,819 --> 00:23:18,178
gravitational force and the other two

238
00:23:15,329 --> 00:23:20,939
functions will require a small amount a

239
00:23:18,179 --> 00:23:24,860
very small amount of external input of

240
00:23:20,940 --> 00:23:35,850
energy to initiate the individual

241
00:23:24,859 --> 00:23:41,278
actress to explain what the energy is

242
00:23:35,849 --> 00:23:49,138
coming from and to show that it is not a

243
00:23:41,278 --> 00:23:55,409
perpetual mode machine we present two

244
00:23:49,138 --> 00:24:04,579
scenarios one one when the two up trusts

245
00:23:55,409 --> 00:24:15,778
are being initiated the two upthrust and

246
00:24:04,579 --> 00:24:17,638
another for the rotation position let us

247
00:24:15,778 --> 00:24:20,339
again remind ourself is the machine

248
00:24:17,638 --> 00:24:26,878
works underwater now we shall look at

249
00:24:20,339 --> 00:24:30,628
each function in further detail so a

250
00:24:26,878 --> 00:24:33,449
very light airfield barren underwater

251
00:24:30,628 --> 00:24:36,959
having stored energy will rise by

252
00:24:33,450 --> 00:24:39,119
differential pressure what we say in

253
00:24:36,960 --> 00:24:40,829
differential pressure pressure again

254
00:24:39,118 --> 00:24:44,990
we're saying that there is a downward

255
00:24:40,829 --> 00:24:49,460
pressure on this surface and then upper

256
00:24:44,990 --> 00:24:53,159
pressure acting on the on the face here

257

00:24:49,460 --> 00:24:55,558
so inside we have pressure height from

258
00:24:53,159 --> 00:24:58,639
here to here and from here to here we

259
00:24:55,558 --> 00:24:58,638
subtract each one okay

260
00:25:06,500 --> 00:25:14,069
now this Enfield Baron will sit on on a

261
00:25:11,009 --> 00:25:18,240
lower sealed chamber like the one we saw

262
00:25:14,069 --> 00:25:22,679
the the insert so the way it is now this

263
00:25:18,240 --> 00:25:25,319
unit cannot cannot rise because it's

264
00:25:22,680 --> 00:25:28,140
sucked in here there is pressure acting

265
00:25:25,319 --> 00:25:32,369
in here but there is no no pressure

266
00:25:28,140 --> 00:25:36,090
acting in here what we do is we open up

267
00:25:32,369 --> 00:25:39,599
a hole here with a solenoid valve and

268
00:25:36,089 --> 00:25:54,689
that will be the only external energy

269
00:25:39,599 --> 00:25:59,939
into this machine so when when we opened

270
00:25:54,690 --> 00:26:05,750
this chamber this buoyant body starts

271
00:25:59,940 --> 00:26:05,750

moving up now what is involved in here

272
00:26:07,369 --> 00:26:14,099
so when that unit is going up what if

273
00:26:11,190 --> 00:26:19,820
what is involved is the density of the

274
00:26:14,099 --> 00:26:19,819
water there's gravity acting on that

275
00:26:22,819 --> 00:26:33,769
there is the height of the differential

276
00:26:25,740 --> 00:26:39,960
pressure there is the area of the unit

277
00:26:33,769 --> 00:26:47,359
and there'll be the travel now if we

278
00:26:39,960 --> 00:27:00,660
multiply all that welcome to joules

279
00:26:47,359 --> 00:27:03,269
which is energy this is this is where

280
00:27:00,660 --> 00:27:04,870
we're harvesting energy right right at

281
00:27:03,269 --> 00:27:06,900
this moment

282
00:27:04,869 --> 00:27:06,899
Oh

283
00:27:10,210 --> 00:27:24,640
death energy eventually is coming from

284
00:27:13,480 --> 00:27:27,910
gravity it's not coming from the Sun now

285
00:27:24,640 --> 00:27:36,430
for control the air filled bottle will

286
00:27:27,910 --> 00:27:42,940
slide on three hollow roads and when it

287
00:27:36,430 --> 00:27:49,600
starts and when it starts going up to

288
00:27:42,940 --> 00:27:59,320
reach the second inwards plate the

289
00:27:49,599 --> 00:28:04,980
pressure in here is neutralized you just

290
00:27:59,319 --> 00:28:07,750
saw the first now this air Fairbairn is

291
00:28:04,980 --> 00:28:09,849
symmetrically designed actually the

292
00:28:07,750 --> 00:28:14,369
whole machine is symmetrically design

293
00:28:09,849 --> 00:28:17,619
whether it's the frame or these units

294
00:28:14,369 --> 00:28:25,199
will have a connection to a cable

295
00:28:17,619 --> 00:28:25,199
engagement mechanism from from this unit

296
00:28:25,289 --> 00:28:31,690
hooked up to there's a hooking device

297
00:28:28,058 --> 00:28:40,420
here through the pulleys and through a

298
00:28:31,690 --> 00:28:50,679
load so so when when this buoyant unit

299
00:28:40,420 --> 00:28:55,330
is going up it will lift up that later

300
00:28:50,679 --> 00:28:57,840
on that load will be a pump the water

301
00:28:55,329 --> 00:28:57,839
pump

302
00:29:04,039 --> 00:29:10,920
so with the right parameters the face

303
00:29:07,230 --> 00:29:22,259
the first unit which will lift this load

304
00:29:10,920 --> 00:29:24,600
or actuator water pump so this

305
00:29:22,259 --> 00:29:41,910
transferring energy from the buoyancy

306
00:29:24,599 --> 00:29:45,000
forces to the cable the load this lift

307
00:29:41,910 --> 00:29:47,610
has been demonstrated by our prototype

308
00:29:45,000 --> 00:29:59,519
and witnessed by several individuals

309
00:29:47,609 --> 00:30:03,809
outside the company okay let's not

310
00:29:59,519 --> 00:30:07,910
forget that an upthrust of a submerged

311
00:30:03,809 --> 00:30:07,909
body can only be used once

312
00:30:13,910 --> 00:30:18,650
okay let's recoup and sing the whole

313
00:30:25,339 --> 00:30:41,250
so an up trust is only allowed once then

314

00:30:30,388 --> 00:30:53,459
how how do we go around that problem by

315
00:30:41,250 --> 00:30:56,009
turning over this red unit you notice

316
00:30:53,460 --> 00:31:02,399
that the centroid of buoyancy is below

317
00:30:56,009 --> 00:31:04,319
the pivot the travel of the center of

318
00:31:02,398 --> 00:31:07,319
mass of buoyancy of the air-filled

319
00:31:04,319 --> 00:31:12,240
barrel is the same distance from below

320
00:31:07,319 --> 00:31:21,168
the pivot to above the pivot welding and

321
00:31:12,240 --> 00:31:24,269
that's the movement while the cable and

322
00:31:21,169 --> 00:31:30,120
this cable will be disengaged when we

323
00:31:24,269 --> 00:31:33,808
want now in order for us to be able to

324
00:31:30,119 --> 00:31:37,859
repeat this function one we now turn

325
00:31:33,808 --> 00:31:41,970
over the first unit using the frame on

326
00:31:37,859 --> 00:31:53,158
the pivot this is achieved using the

327
00:31:41,970 --> 00:31:56,129
second buoyant unit before continuing

328
00:31:53,159 --> 00:32:04,889

with the design let us consider a smooth

329
00:31:56,128 --> 00:32:06,990
cylinder under water so this cylinder

330
00:32:04,888 --> 00:32:09,209
has nothing to do with with the would

331
00:32:06,990 --> 00:32:13,440
day prototype you just

332
00:32:09,210 --> 00:32:14,910
so it has smooth faces in here and it's

333
00:32:13,440 --> 00:32:16,920
held to the ground

334
00:32:14,910 --> 00:32:20,759
okay there's Stoppers in there and

335
00:32:16,920 --> 00:32:28,200
stopper in there now we'll put a unit

336
00:32:20,759 --> 00:32:39,269
inside the unit consists of a tank - two

337
00:32:28,200 --> 00:32:43,380
airbags and three hollow tubes we call

338
00:32:39,269 --> 00:32:47,210
this now a boundary wall a boundary wall

339
00:32:43,380 --> 00:33:02,880
that doesn't let the outside water

340
00:32:47,210 --> 00:33:08,460
touching this water inside now this

341
00:33:02,880 --> 00:33:11,100
water is free to move from here to that

342
00:33:08,460 --> 00:33:14,519
tube there is an outlet in here to these

343
00:33:11,099 --> 00:33:16,589
three tubes - this tank up in here and

344
00:33:14,519 --> 00:33:20,059
there is an outlet in here and it's

345
00:33:16,589 --> 00:33:20,059
totally enclosed in here

346
00:33:29,140 --> 00:33:39,550
now these two air bags are spread far

347
00:33:34,599 --> 00:33:50,699
apart so as to increase the force down

348
00:33:39,549 --> 00:33:54,190
in here we will show and we showed that

349
00:33:50,700 --> 00:33:56,860
this unit will lift anything that is

350
00:33:54,190 --> 00:34:04,090
between this face and that face the

351
00:33:56,859 --> 00:34:09,940
whole thing will lift up and this is

352
00:34:04,089 --> 00:34:13,418
true even if the tank this tank is

353
00:34:09,940 --> 00:34:17,460
traveling in the airspace of another

354
00:34:13,418 --> 00:34:22,750
unit which in our case is the first unit

355
00:34:17,460 --> 00:34:33,639
and in relation and independent of the

356
00:34:22,750 --> 00:34:36,280
first unit there is an up trust so here

357
00:34:33,639 --> 00:34:41,168
we took the advantage of having another

358
00:34:36,280 --> 00:34:45,250
unit spreading the airbags

359
00:34:41,168 --> 00:34:49,359
far apart as we need we have no

360
00:34:45,250 --> 00:34:51,429
restriction this tool have been proven

361
00:34:49,360 --> 00:35:00,940
by our prototype and witnessed by

362
00:34:51,429 --> 00:35:05,800
several individuals the mathematical

363
00:35:00,940 --> 00:35:08,519
treatment is similar to function one but

364
00:35:05,800 --> 00:35:08,519
it's not that easy

365
00:35:10,099 --> 00:35:25,279
let us now integrate these two buoyant

366
00:35:15,300 --> 00:35:35,280
units you will notice that the mid tank

367
00:35:25,280 --> 00:35:38,610
travels inside the first unit but the

368
00:35:35,280 --> 00:35:46,710
two airbags are outside of the first

369
00:35:38,610 --> 00:35:48,900
unit in other words by the design of

370
00:35:46,710 --> 00:35:53,550
this ballast mass unit which is the

371

00:35:48,900 --> 00:35:57,480
second the material making up the unit

372
00:35:53,550 --> 00:36:03,440
is shifted upwards together with all the

373
00:35:57,480 --> 00:36:03,440
water that is between the two airbags

374
00:36:10,760 --> 00:36:22,160
now you will notice the middle tank has

375
00:36:17,849 --> 00:36:22,159
nothing to do with the outside water

376
00:36:25,449 --> 00:36:41,649
try to redo it and since it is a not in

377
00:36:30,519 --> 00:36:44,318
contact that becomes a lot we are

378
00:36:41,650 --> 00:36:50,170
achieving a very positive turning moment

379
00:36:44,318 --> 00:36:56,710
for the whole structure with the right

380
00:36:50,170 --> 00:37:00,579
parameters now we set up a huge formula

381
00:36:56,710 --> 00:37:03,519
for the whole thing there are certain

382
00:37:00,579 --> 00:37:10,349
parameters that work other parameters do

383
00:37:03,519 --> 00:37:13,929
not work so the formula that we have

384
00:37:10,349 --> 00:37:25,690
restricts certain parameters and it

385
00:37:13,929 --> 00:37:31,210

tells you know it's the negative here we

386
00:37:25,690 --> 00:37:34,690
have the complete design so we have the

387
00:37:31,210 --> 00:37:38,048
first unit the air Fairbairn it's

388
00:37:34,690 --> 00:37:41,250
sitting ready for the first sub trust we

389
00:37:38,048 --> 00:37:45,670
have the second unit the air back the

390
00:37:41,250 --> 00:37:48,059
hollow rods the tank hollow road and the

391
00:37:45,670 --> 00:37:51,670
airbag which are all welded together

392
00:37:48,059 --> 00:37:55,269
okay there is water inside the machine

393
00:37:51,670 --> 00:37:57,940
it's held out with bellows system this

394
00:37:55,269 --> 00:38:01,030
this is acting as a boundary wall so

395
00:37:57,940 --> 00:38:06,298
this water the the dark-blue cannot

396
00:38:01,030 --> 00:38:06,298
touch the the outside water

397
00:38:14,699 --> 00:38:28,539
with the frame consisting of these four

398
00:38:25,449 --> 00:38:33,578
plates and the tie rods and the bearing

399
00:38:28,539 --> 00:38:36,608
is totally balanced its symmetrically

400
00:38:33,579 --> 00:39:01,059
designed so therefore it will be out of

401
00:38:36,608 --> 00:39:03,730
the equation so when the second unit is

402
00:39:01,059 --> 00:39:06,940
being lifted all this water find its way

403
00:39:03,730 --> 00:39:12,909
through waterways to the outside unit in

404
00:39:06,940 --> 00:39:16,599
here or through the hollow tubes and to

405
00:39:12,909 --> 00:39:18,670
the tunki tank in here okay the travel

406
00:39:16,599 --> 00:39:23,769
of the centroid of buoyancy of the

407
00:39:18,670 --> 00:39:27,068
ballast mass unit is makes the whole

408
00:39:23,769 --> 00:39:31,869
structure top-heavy all right

409
00:39:27,068 --> 00:39:48,639
there's here's another view of how the

410
00:39:31,869 --> 00:39:52,200
water is able to travel inside so here

411
00:39:48,639 --> 00:39:55,358
we have the lower bellows with this

412
00:39:52,199 --> 00:39:57,489
holes in here that this water can go

413
00:39:55,358 --> 00:40:00,699
either through this hollow tubes or

414
00:39:57,489 --> 00:40:04,558
through these waterways that are

415
00:40:00,699 --> 00:40:04,558
attached in the end and the frame

416
00:40:10,719 --> 00:40:17,868
so then this Aldous lower water we'll

417
00:40:13,849 --> 00:40:23,838
find out find itself up on the top

418
00:40:17,869 --> 00:40:25,730
compartment now in the beginning again I

419
00:40:23,838 --> 00:40:28,940
said that an up trust of a submerged

420
00:40:25,730 --> 00:40:36,889
buoyant body can only be used once and

421
00:40:28,940 --> 00:40:40,519
we found the way how to repeat it now

422
00:40:36,889 --> 00:40:45,500
there is another technical observation

423
00:40:40,519 --> 00:40:49,608
here we know that the amount of energy

424
00:40:45,500 --> 00:40:54,619
to be supplied by the air felt barrel as

425
00:40:49,608 --> 00:40:59,139
as it is going up it is exactly equal if

426
00:40:54,619 --> 00:40:59,140
you try either to push it or to turn it

427
00:41:10,960 --> 00:41:16,429
therefore an independent force is

428

00:41:13,818 --> 00:41:18,670
provided to restore the earth will

429
00:41:16,429 --> 00:41:23,710
barrel to its original position a

430
00:41:18,670 --> 00:41:23,710
repetition of the up thrust is achieved

431
00:41:31,568 --> 00:41:39,460
so in our machine we're using the second

432
00:41:35,358 --> 00:41:39,460
unit as this independent force

433
00:41:46,210 --> 00:41:55,340
let's start preparing for function three

434
00:41:49,070 --> 00:41:57,590
let us now disengage the cable let us

435
00:41:55,340 --> 00:42:07,850
consider the first and the second unit

436
00:41:57,590 --> 00:42:12,920
at the uppermost position here we have

437
00:42:07,849 --> 00:42:15,679
the first unit is logged to this upper

438
00:42:12,920 --> 00:42:32,630
plate and the ballast mass unit is

439
00:42:15,679 --> 00:42:40,339
locked to that plate okay so there is

440
00:42:32,630 --> 00:42:43,910
the frame and it's anchored to the

441
00:42:40,340 --> 00:42:47,420
ground so the the frame cannot go up it

442
00:42:43,909 --> 00:42:50,509

can only say let us now turn this this

443
00:42:47,420 --> 00:42:52,690
figure to see it from the pivot point of

444
00:42:50,510 --> 00:42:52,690
view

445
00:42:56,949 --> 00:43:03,549
so here we have the frame on a pivot the

446
00:42:59,679 --> 00:43:12,069
pivot is somewhere in here can I have

447
00:43:03,550 --> 00:43:17,650
the other just everything so the pivot

448
00:43:12,070 --> 00:43:27,539
is somewhere in here the the frame is

449
00:43:17,650 --> 00:43:31,119
set at an angle now the central is the

450
00:43:27,539 --> 00:43:35,320
tank at the center of the ballast mass

451
00:43:31,119 --> 00:43:38,739
unit found itself to the top side of

452
00:43:35,320 --> 00:43:43,570
this earth will burn this earth will

453
00:43:38,739 --> 00:43:45,959
burn being filled with air is trying to

454
00:43:43,570 --> 00:43:49,900
counter counter the frame

455
00:43:45,960 --> 00:44:09,940
counterclockwise while the load here is

456
00:43:49,900 --> 00:44:17,170
trying clockwise so the machine is

457
00:44:09,940 --> 00:44:20,610
top-heavy the vessel we will calling it

458
00:44:17,170 --> 00:44:23,970
now a vessel because it's like a shield

459
00:44:20,610 --> 00:44:28,480
the flame is like a tool which has

460
00:44:23,969 --> 00:44:31,239
weight on top nothing can move when it

461
00:44:28,480 --> 00:44:48,690
turns and it's horizontal nothing will

462
00:44:31,239 --> 00:44:52,029
move well release all the pivot control

463
00:44:48,690 --> 00:44:57,059
the cable engagement mechanism is not

464
00:44:52,030 --> 00:44:57,060
there anymore and the vessel will rotate

465
00:45:01,699 --> 00:45:14,250
put Jesus first now this was by the

466
00:45:06,809 --> 00:45:22,920
force of gravity and both units now are

467
00:45:14,250 --> 00:45:26,099
upside down the pivot controls and the

468
00:45:22,920 --> 00:45:38,880
cable are again engaged at the end of

469
00:45:26,099 --> 00:45:41,789
swing now if there is no human

470
00:45:38,880 --> 00:45:45,990
intervention nothing will happen and the

471
00:45:41,789 --> 00:45:50,840
machine would just lie there like bit of

472
00:45:45,989 --> 00:45:50,839
material underwater the machine stops

473
00:45:53,210 --> 00:46:01,670
and here we say the power balance is

474
00:45:58,050 --> 00:46:05,360
complete the the tool up trust is

475
00:46:01,670 --> 00:46:08,849
completed by by all by the overturning

476
00:46:05,360 --> 00:46:12,800
this is proof that it is it is not a

477
00:46:08,849 --> 00:46:12,799
perfect world mode because it stops

478
00:46:18,739 --> 00:46:31,199
energy was only converted from one form

479
00:46:22,050 --> 00:46:33,780
to another natural forces restore an

480
00:46:31,199 --> 00:46:36,109
alternate equilibrium of the surrounding

481
00:46:33,780 --> 00:46:36,110
water

482
00:46:45,420 --> 00:46:56,230
with a with a restaurant you're the only

483
00:46:50,289 --> 00:46:59,079
nonzero okay now the system is now ready

484
00:46:56,230 --> 00:47:09,789
to start back to function one and

485

00:46:59,079 --> 00:47:12,450
function two now focusing on D on the

486
00:47:09,789 --> 00:47:12,449
lower plates

487
00:47:16,260 --> 00:47:26,230
okay these are opened by a solenoid

488
00:47:19,420 --> 00:47:53,099
valve letting the outside water to act

489
00:47:26,230 --> 00:47:57,099
on the two units simultaneously this is

490
00:47:53,099 --> 00:48:00,460
this is the this is the blue this is the

491
00:47:57,099 --> 00:48:04,030
blue water is inside and all these is

492
00:48:00,460 --> 00:48:14,409
outside water right the white is the

493
00:48:04,030 --> 00:48:18,930
outside water it's the whole machine is

494
00:48:14,409 --> 00:48:25,568
always under water which is open free

495
00:48:18,929 --> 00:48:28,480
exactly as all of this yeah that's why I

496
00:48:25,568 --> 00:48:35,460
keep on saying the machine works all the

497
00:48:28,480 --> 00:48:35,460
time under water I put it in a big tank

498
00:48:39,389 --> 00:48:45,909
it's an open frame it's a no it's an

499
00:48:43,000 --> 00:48:48,489

open frame water this outside water can

500
00:48:45,909 --> 00:48:50,769
travel go in here go in here go in here

501
00:48:48,489 --> 00:48:53,669
go and there go in there but it's not

502
00:48:50,769 --> 00:48:56,369
allowed to touch the

503
00:48:53,670 --> 00:48:57,869
and the inside whatever fossa gives the

504
00:48:56,369 --> 00:49:02,000
deserve the cover between are coming

505
00:48:57,869 --> 00:49:07,260
under destitution we begin also in these

506
00:49:02,000 --> 00:49:12,150
various angles okay yeah the the middle

507
00:49:07,260 --> 00:49:15,990
room the chamber is now tough collar is

508
00:49:12,150 --> 00:49:16,740
it empty or it's also full of which one

509
00:49:15,989 --> 00:49:20,969
know here

510
00:49:16,739 --> 00:49:23,899
oh I see okay this is this is oh yeah

511
00:49:20,969 --> 00:49:28,848
yeah yeah that's a that's a mistake

512
00:49:23,900 --> 00:49:32,880
how come no no it was it was below sorry

513
00:49:28,849 --> 00:49:37,048
there's something there missing no

514
00:49:32,880 --> 00:49:39,480
there's water in it yeah this is this is

515
00:49:37,048 --> 00:49:43,409
the inside water it's filled with water

516
00:49:39,480 --> 00:49:48,900
or always yeah always

517
00:49:43,409 --> 00:49:52,518
whether it's weird slide 16 so it's

518
00:49:48,900 --> 00:49:56,690
filled there how come it didn't show

519
00:49:52,518 --> 00:49:56,689
it's still there still there

520
00:50:00,400 --> 00:50:12,608
I need those oh it's alright okay now

521
00:50:07,028 --> 00:50:20,289
this is the only external energy that we

522
00:50:12,608 --> 00:50:22,150
required just to open that fun there are

523
00:50:20,289 --> 00:50:30,190
two vaults one in here and one in here

524
00:50:22,150 --> 00:50:33,249
they open at the same time so I think

525
00:50:30,190 --> 00:50:36,999
from the formulas all the formulas in

526
00:50:33,248 --> 00:50:40,689
the swp are based on simple fluid

527
00:50:36,998 --> 00:50:44,879
mechanics and the construction could

528
00:50:40,690 --> 00:50:44,880
have been built in the 1960s or 1970s

529
00:50:51,119 --> 00:50:57,309
for that reason I call it a low

530
00:50:53,920 --> 00:50:59,440
technology invention but today we'll be

531
00:50:57,309 --> 00:51:11,079
using state-of-the-art controls and

532
00:50:59,440 --> 00:51:16,389
modern materials now we're going to show

533
00:51:11,079 --> 00:51:21,839
an a movie video with us around seven

534
00:51:16,389 --> 00:51:21,838
seven minutes this was taken in 2006

535
00:51:23,998 --> 00:51:30,298
showing the showing the functions

536
00:51:42,949 --> 00:51:47,838
but if you don't know how high

537
00:52:43,690 --> 00:52:48,559
the Spiteri water clock offers a smart

538
00:52:46,760 --> 00:52:57,050
alternative to the high cost of

539
00:52:48,559 --> 00:52:58,940
producing electricity the machine is set

540
00:52:57,050 --> 00:53:01,880
up in a reservoir of the vulcanization

541
00:52:58,940 --> 00:53:03,800
set outside of the reservoir here

542

00:53:01,880 --> 00:53:06,490
represented by a water container

543
00:53:03,800 --> 00:53:06,490
estimate

544
00:53:44,900 --> 00:53:51,389
machine nestled swings on pivot from 15

545
00:53:48,360 --> 00:53:53,630
degrees of love sunny to 15 degrees of

546
00:53:51,389 --> 00:53:53,629
whites

547
00:54:03,789 --> 00:54:11,200
Jim wire is attached from machine to

548
00:54:06,920 --> 00:54:11,200
need outside load or topic station

549
00:54:36,530 --> 00:54:42,890
frame of the machine is balanced on the

550
00:54:39,570 --> 00:54:42,890
reservoir Kinnick

551
00:55:05,960 --> 00:55:10,550
machine works under the water surface

552
00:55:21,599 --> 00:55:29,200
machine making functions function one an

553
00:55:25,139 --> 00:55:33,420
air-filled barrel greenside is lifted by

554
00:55:29,199 --> 00:55:33,419
the water pressure hydraulic energy

555
00:55:50,829 --> 00:55:57,889
machine being functions function to

556
00:55:53,750 --> 00:56:00,949

allow us to mass unit B mu is lifted by

557
00:55:57,889 --> 00:56:06,009
the water pressure hydraulic energy this

558
00:56:00,949 --> 00:56:06,009
the MU will unbalance the whole machine

559
00:56:46,039 --> 00:56:52,559
machine-made function of function 3 the

560
00:56:50,039 --> 00:56:56,269
machine is unbalanced and turns from the

561
00:56:52,559 --> 00:56:56,269
green station to the right station

562
00:57:21,510 --> 00:57:28,720
machine main functions function one an

563
00:57:25,690 --> 00:57:32,730
air-filled barrel red side is lifted by

564
00:57:28,719 --> 00:57:32,730
the water pressure hydraulic energy

565
00:57:55,429 --> 00:58:02,250
oisin main functions function 3 the

566
00:57:59,699 --> 00:58:06,019
machine is unbalanced and turns from the

567
00:58:02,250 --> 00:58:06,019
right station to the green station

568
00:58:51,840 --> 00:59:11,940
well let us think with - so much

569
00:59:09,090 --> 00:59:14,760
progress has been made in the last 30

570
00:59:11,940 --> 00:59:26,159
years in exploiting the energy available

571
00:59:14,760 --> 00:59:28,380
from sources the most common fields

572
00:59:26,159 --> 00:59:31,909
where significant progress has been

573
00:59:28,380 --> 00:59:46,530
registers or the photovoltaic PV or

574
00:59:31,909 --> 00:59:49,259
solar wind energy and wave energy the

575
00:59:46,530 --> 00:59:52,200
contribution of all these energy sources

576
00:59:49,260 --> 00:59:55,560
is increasing annually but one major

577
00:59:52,199 --> 00:59:58,619
drawback common to all is that they are

578
00:59:55,559 --> 01:00:01,769
location dependent and the particular

579
00:59:58,619 --> 01:00:18,420
type can only be successful at a

580
01:00:01,769 --> 01:00:20,610
particular place as an example wind

581
01:00:18,420 --> 01:00:23,690
energy can only be commercially viable

582
01:00:20,610 --> 01:00:26,519
at locations where appropriate wind

583
01:00:23,690 --> 01:00:34,980
speeds are present for considerable

584
01:00:26,519 --> 01:00:39,320
periods of the year this Puteri water

585
01:00:34,980 --> 01:00:39,320
pump concept had none of these drawbacks

586
01:00:43,239 --> 01:00:49,939
and can be applied at any location

587
01:00:47,030 --> 01:01:00,710
independent of geology or geographical

588
01:00:49,940 --> 01:01:03,320
location what air to drive the machine

589
01:01:00,710 --> 01:01:08,349
is recycle and therefore no constant

590
01:01:03,320 --> 01:01:08,350
water supply has to be available on site

591
01:01:15,909 --> 01:01:22,699
the swp being a prime mover machine can

592
01:01:20,119 --> 01:01:25,190
be used for other applications today

593
01:01:22,699 --> 01:01:44,269
we're only focusing on electricity

594
01:01:25,190 --> 01:01:47,840
production some phd's water told me that

595
01:01:44,269 --> 01:01:50,119
it will revolutionize the energy sector

596
01:01:47,840 --> 01:01:52,760
because of its independence on

597
01:01:50,119 --> 01:01:55,059
geographical location and its modular

598
01:01:52,760 --> 01:01:55,060
construction

599

01:01:58,440 --> 01:02:10,400
Peabody Munna is foraging for the

600
01:02:08,400 --> 01:02:13,440
efficiency of the unit is also

601
01:02:10,400 --> 01:02:16,289
independent of the size and the output

602
01:02:13,440 --> 01:02:38,159
can be with the energy requirements of

603
01:02:16,289 --> 01:02:41,579
the location but it's necessary set the

604
01:02:38,159 --> 01:02:49,909
whole state is under water so you you

605
01:02:41,579 --> 01:02:49,910
need a big lake not a big lake like this

606
01:02:57,500 --> 01:03:08,510
no no no no it can be under it can be

607
01:03:02,099 --> 01:03:08,510
underground it can be this the sole only

608
01:03:08,659 --> 01:03:22,199
as long as it is an attack as long as

609
01:03:13,440 --> 01:03:27,059
the Machine fits in the tank under water

610
01:03:22,199 --> 01:03:30,689
so the prata the prototype is sitting in

611
01:03:27,059 --> 01:03:33,869
a tank which is five meters by 5 meters

612
01:03:30,690 --> 01:03:34,108
by by a metre and a half that's all it

613
01:03:33,869 --> 01:03:36,950

is

614
01:03:34,108 --> 01:03:36,949
it's in the garage

615
01:03:40,230 --> 01:03:44,110
we have one person Garrett comes from

616
01:03:43,480 --> 01:03:51,579
Holland

617
01:03:44,110 --> 01:03:54,610
he saw it's about okay these attributes

618
01:03:51,579 --> 01:03:56,769
make these potato water-pump concept

619
01:03:54,610 --> 01:04:00,010
highly practical because the tools

620
01:03:56,769 --> 01:04:03,880
utilizes a new renewable energy source

621
01:04:00,010 --> 01:04:13,480
which is water it has a high economic

622
01:04:03,880 --> 01:04:21,519
and environmental value there are no

623
01:04:13,480 --> 01:04:25,079
emissions or byproducts and it can be

624
01:04:21,519 --> 01:04:27,670
caused constructed to be unobtrusive

625
01:04:25,079 --> 01:04:44,920
that means it can be underworld

626
01:04:27,670 --> 01:04:47,440
underground so because of the simplicity

627
01:04:44,920 --> 01:04:49,960
of operation and the low level of

628
01:04:47,440 --> 01:04:53,740
technology required to erect these units

629
01:04:49,960 --> 01:04:56,260
the swp is highly suitable for

630
01:04:53,739 --> 01:05:10,599
installation in third-world countries to

631
01:04:56,260 --> 01:05:13,960
provide we can provide power to remote

632
01:05:10,599 --> 01:05:16,920
areas open new horizons and accelerating

633
01:05:13,960 --> 01:05:16,920
development

634
01:05:22,449 --> 01:05:33,858
the economic model the researchers we

635
01:05:31,400 --> 01:05:36,470
see this product as being highly

636
01:05:33,858 --> 01:05:39,098
attractive to two distinct market

637
01:05:36,469 --> 01:06:02,419
segments namely government central

638
01:05:39,099 --> 01:06:05,109
regional or local councils large energy

639
01:06:02,420 --> 01:06:19,579
corporations including hydroelectric

640
01:06:05,108 --> 01:06:21,199
turbine generator manufacturers who

641
01:06:19,579 --> 01:06:28,039
would be interested in this technology

642
01:06:21,199 --> 01:06:30,348
on a on an exclusive area basis to

643
01:06:28,039 --> 01:06:45,588
obtain has a head start in the race of

644
01:06:30,349 --> 01:06:48,670
the renewable energy force sources you

645
01:06:45,588 --> 01:06:55,779
know you know

646
01:06:48,670 --> 01:06:58,420
energy sources these direct customers

647
01:06:55,780 --> 01:07:16,420
will produce the plants which will be

648
01:06:58,420 --> 01:07:19,630
sold to the end-users which include

649
01:07:16,420 --> 01:07:20,440
smaller scale organization that required

650
01:07:19,630 --> 01:07:23,140
a low-cost

651
01:07:20,440 --> 01:07:43,210
uninterrupted power supply such as

652
01:07:23,139 --> 01:07:46,960
hotels hospital and small isolated

653
01:07:43,210 --> 01:07:49,510
settlements around the world this

654
01:07:46,960 --> 01:07:52,030
innovation can achieve a higher market

655
01:07:49,510 --> 01:07:56,700
penetration later on by producing

656

01:07:52,030 --> 01:07:56,700
scaled-down units to meet their demands

657
01:08:03,869 --> 01:08:13,780
return on investments from experience

658
01:08:11,739 --> 01:08:19,929
gathered throughout the last 10 years of

659
01:08:13,780 --> 01:08:22,719
development we are proposing to start

660
01:08:19,929 --> 01:08:26,819
building units having four meter

661
01:08:22,719 --> 01:08:26,819
diameter by three meters high

662
01:08:33,590 --> 01:08:38,630
these units have Peaks stored energy of

663
01:08:36,619 --> 01:08:42,729
three hundred and fifty-five thousand

664
01:08:38,630 --> 01:08:46,369
watts and taking in consideration

665
01:08:42,729 --> 01:08:49,939
efficiency losses and efficiency the

666
01:08:46,369 --> 01:08:55,250
cost of manufacture is very low

667
01:08:49,939 --> 01:09:39,919
while revenues are quite high we'll show

668
01:08:55,250 --> 01:09:44,180
you next and it's right there okay well

669
01:09:39,920 --> 01:09:49,550
what we're saying here we have the

670
01:09:44,180 --> 01:09:53,800

design complete ready for a unit that

671
01:09:49,550 --> 01:09:57,020
takes the first unit that we saw the

672
01:09:53,800 --> 01:10:04,279
air-filled barrel being four meters

673
01:09:57,020 --> 01:10:07,700
diameter by three meters high that has a

674
01:10:04,279 --> 01:10:19,429
potential energy of three hundred and

675
01:10:07,699 --> 01:10:22,039
fifty five thousand words 300 pound okay

676
01:10:19,430 --> 01:10:24,619
it comes to power

677
01:10:22,039 --> 01:10:27,640
no man of power in there with with no

678
01:10:24,619 --> 01:10:32,510
with no losses say so we're making ten

679
01:10:27,640 --> 01:10:37,369
and in this columbic study so we'll have

680
01:10:32,510 --> 01:10:38,570
three point five megawatt we're we're

681
01:10:37,369 --> 01:10:45,769
using in the study

682
01:10:38,569 --> 01:10:48,739
eighty percent efficiency if you say the

683
01:10:45,770 --> 01:10:54,800
only losses is mostly through the cable

684
01:10:48,739 --> 01:10:56,569
and the police and and and the bell of

685
01:10:54,800 --> 01:10:57,440
eight and the Belo system and that's

686
01:10:56,569 --> 01:11:02,139
about it

687
01:10:57,439 --> 01:11:05,779
okay we're using a a feed-in tariff of

688
01:11:02,140 --> 01:11:11,050
twenty seven Euro cents per

689
01:11:05,779 --> 01:11:11,050
kilowatt-hour I was going to say that

690
01:11:15,159 --> 01:11:25,130
the initial the initial investment the

691
01:11:22,279 --> 01:11:28,909
initial investment which is two point

692
01:11:25,130 --> 01:11:32,090
nine three plus the initial loan to

693
01:11:28,909 --> 01:11:44,329
start producing would be paid out in ten

694
01:11:32,090 --> 01:11:47,539
years at 6% and we're using also beside

695
01:11:44,329 --> 01:11:50,510
the eight percent will we decrease that

696
01:11:47,539 --> 01:11:57,170
by another five percent every year so to

697
01:11:50,510 --> 01:11:59,659
to be quite conservative okay the life

698
01:11:57,170 --> 01:12:02,029
the life of the unit we're expecting it

699
01:11:59,659 --> 01:12:11,899
to be twenty twenty-five years

700
01:12:02,029 --> 01:12:14,689
so in ten years so there is quite this

701
01:12:11,899 --> 01:12:18,920
is these are the cost there's quite a

702
01:12:14,689 --> 01:12:36,949
lot of leverage of adding the cost big

703
01:12:18,920 --> 01:12:40,609
profit there well as I told you in the

704
01:12:36,949 --> 01:12:44,720
beginning my challenge my challenge was

705
01:12:40,609 --> 01:12:53,239
to create a waterfall I started on this

706
01:12:44,720 --> 01:12:56,990
in 1991 that's twenty years ago now your

707
01:12:53,239 --> 01:12:59,989
challenge one of you we're seeking an

708
01:12:56,989 --> 01:13:10,550
initial capital investment of two point

709
01:12:59,989 --> 01:13:13,429
nine three million euros imagine being

710
01:13:10,550 --> 01:13:17,000
able to produce hydroelectric power

711
01:13:13,430 --> 01:13:21,610
around the world with this twenty twenty

712
01:13:17,000 --> 01:13:21,609
four seven continuously

713

01:13:28,140 --> 01:13:32,720
and what are we using we're using water

714
01:13:47,630 --> 01:13:56,100
we don't

715
01:13:50,329 --> 01:13:58,890
the idea is to pump water and have a

716
01:13:56,100 --> 01:14:01,289
waterfall and that is where we're

717
01:13:58,890 --> 01:14:04,980
getting the electricity from not from

718
01:14:01,289 --> 01:14:09,420
not from the machine and it is known

719
01:14:04,979 --> 01:14:12,979
technology okay it's not it's not the

720
01:14:09,420 --> 01:14:17,850
movement of the machine that's creating

721
01:14:12,979 --> 01:14:39,809
the movement is only is only to to

722
01:14:17,850 --> 01:14:42,630
restart the the machine is sitting in a

723
01:14:39,810 --> 01:14:47,660
big tank let's say it's sitting in this

724
01:14:42,630 --> 01:14:51,630
understand some of that water is

725
01:14:47,659 --> 01:14:55,099
actuated the machine the other some of

726
01:14:51,630 --> 01:15:00,960
the water is being pumped continuously

727
01:14:55,100 --> 01:15:04,860

to to a waterfall then that water comes

728
01:15:00,960 --> 01:15:07,560
back to the stack so there is no

729
01:15:04,859 --> 01:15:11,159
replenishment we're not adding water

730
01:15:07,560 --> 01:15:13,640
where we're is recycling water what you

731
01:15:11,159 --> 01:15:17,010
again

732
01:15:13,640 --> 01:15:19,170
should we stop this is discussion maybe

733
01:15:17,010 --> 01:15:22,640
that I have to finish your speech two

734
01:15:19,170 --> 01:15:22,640
minutes later four minutes

735
01:15:23,239 --> 01:15:28,760
okay stop okay

736
01:15:32,069 --> 01:15:36,809
the machine can't be the machine we can

737
01:15:34,439 --> 01:15:39,769
busy people in Malta have to talk about

738
01:15:36,810 --> 01:15:39,770
some top secret

739
01:15:41,569 --> 01:15:45,199
now for this video

740
01:15:45,710 --> 01:15:53,340
okay this okay well just the last

741
01:15:51,000 --> 01:15:59,010
sentence we're gonna see a video of one

742
01:15:53,340 --> 01:16:02,449
and a half minutes and that's it so so

743
01:15:59,010 --> 01:16:02,449
bozo Enterprises Limited

744
01:16:06,949 --> 01:16:34,489
okay we know that hydroelectric

745
01:16:29,789 --> 01:16:34,489
generation has the least impact on our

746
01:16:41,210 --> 01:16:52,199
difficulties so here's a TV God does

747
01:16:45,329 --> 01:16:55,819
your mom young healthy perspective is

748
01:16:52,199 --> 01:16:55,819
easy job yes

749
01:16:56,909 --> 01:17:02,789
and would like to take curve this is

750
01:17:05,550 --> 01:17:11,079
Escobar

751
01:17:07,510 --> 01:17:14,230
we expect a quarter okay there are some

752
01:17:11,079 --> 01:17:19,510
questions and we can be individually

753
01:17:14,229 --> 01:17:22,599
discuss you we'll talk tomorrow or to

754
01:17:19,510 --> 01:17:25,260
move data Busan observe but I can

755
01:17:22,600 --> 01:17:25,260
enhance it more