

~~BDM Transcript of Talk~~

20 July 15

Exports ^{com} of planned presentation

I

Bruce - and all the Del Mar
~~and associates~~
family - Thank you for allowing
us to share in this special event.

A centennial birthday is always
special but this one was made
more ^{Bruce used} ~~truly~~ unique by the way, the hund-
red years ~~were used~~.

One day Jack Hammond put
the phone down laughing. That was
the Del Mar ^{Aionics} ~~Avionics~~ crew in the
exhibit in Germany. It is three o'clock
in the morning there and the show
opens at ^{five} ~~six~~ in ~~four~~ hours but Bruce
won't leave the exhibit and go to bed.
Bruce had landed that night after

flying in from Los Angeles. He was only 80 years old at the time. His life was vigorous and he and Mary took great care of their health to maintain that vigor.

This is a life too large to describe, even in a whole evening, so I must take only a few of his qualities and abilities and describe them in action as I over the ^{past} ~~last~~ sixty years of our saw them play out in life. lives!

His intelligence, imagination and and creativity are uncanny. ^{PP} When the airline hostess on every commercial flight briefs you on the oxygen mask with "should the cabin pressurization fail",

remember it was ~~pro~~ Bruce Del Mar who invented the first successful cabin pressurization system for Douglas Aircraft. He was a superb engineer and who loved aircraft and flying.

Courage is more than ^{the bravery of} ~~the~~ facing a ^{moment} brief ~~period~~ of danger. He had both plus a love of adventure. Rodger, his older brother described a cross country ski in their youth. They found trips in the mountains and finding a big abandoned ski jump. "I can do that" and when they couldn't convince him otherwise ^{slope} dashed down the ~~hill~~ to meet Bruce ~~soon~~

climbing up the hill, broken skis under one arm. "I told you I could it." I can do

it was repeated many times in his

life. TP Loyalty was an essential part of him. He loved ^{this} country - and defended it in many ways. I have never seen deeper loyalty to family, to family's parents, to Mary, Pat and Marina and to their & their future generations.

As a most successful engineer in a great aircraft company he could have looked forward to steady progression. Instead he wanted to do it himself ~~and~~ with a quartet from Douglas, Walter his brother, Joe Hopp and Neil Lamont, he founded Del Mar Engineering in the early 1950's.

At that time America was in real danger - Russia was about to start a proxy war in Korea and more dangerous yet they ~~had built~~ were building nuclear weapons and bombers to deliver them anywhere in the U.S. In response we developed three new fighter aircraft armed with rockets and guided by radar which aimed and fired by a computer. They were our only ^{real} air defence, but the airforce planners had forgotten an essential item - target a ~~score~~ target and scoring system, and it soon became obvious the squadrons of new fighters weren't much use ~~but~~ without them.

~~The~~ On airforce let In 1954 I built a three dimensional a scoring system that combined radar and visible optics such that only a small radar reflector was required as a target.

Del Mar immediately Engineering also was building some large tow targets

for the airforce at the time. He had been unofficially collaborating and Bruce saw the advantages of a small radar target that could be scored by radar & optics and the "Radop" target was developed with a small reel that allowed a fighter squadron to launch and tow a realistic target at realistic speeds and altitudes. ~~It became~~ Bruce did this in house & government or outside funding. Rumor

has it that he used his home to guarantee
 bank loans. The Del Mar ~~the~~ RADOP became
 very successful ^{and}
 with ~~target~~ tens of target systems and
 sold to USAF and USN.
 hundreds of targets ^{that} ~~so~~ had finished my USAF
 tour and needed money for marriage and
 medical school. ^{and in} 1955 I joined Del Mar to
 USAF and USN ^{to} design scoring systems for the A. As on Del
 Mar's business increased Bruce started
 other developments such as helicopters. He
 also acquired other small usually unsuc-
 cessful start ups such as Hydrosat and
 a plastics company for the targets.

He found time for family and to
 pass on some of his skills and support

youth groups such as the Boy Scouts.

One weekend he, Neil Lamont and I flew the company Cessna up, about 8⁺ into Monache Meadows, a small dirt airstrip 8000 feet up in the Sierras that Bruce had heard of. He could tell it was an airstrip by aircraft.
 two wrecks, Neil flew it in, and ~~the~~ Neil and I got out and Bruce took off to "see what it feels like up here." He was making a normal ~~soon then~~ approach but ~~the~~ sailed by about 4 or five feet above the runway. ~~A~~ A rock the size of a house was the end of the ^{it} runway, he forced wheels into the sand braking hard until a few feet from the ~~a~~ rock the

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he locked the brake

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~~up~~, the tail rose ~~and~~ almost vertically
and visions of climbing down the mountains
for help appeared. But the tail slowly settled
Bruce ^{spun} ~~gunned~~ it around on one wheel and
took off and proceeded to make ^{two} a nice short
field landing. "I didn't realize you guys were so
heavy and it floated!"

The scores were rapidly completed, ~~and sales~~
~~of targets~~ sales of targets soared into the
thousands and larger facilities were built in
Irvine.

research in medicine,
At the time ~~an~~ application of
especially in Cardiology was increasing
but limited for lack of instruments such as blood
& gas flow meters. At this time I pressed

Bruce to start a medical electronics division. He did this against the ~~for~~ strong advice, especially financial, from within and without the company, and Avionics Research Products ^{in El Segundo} decision, ~~was by the~~ was started with this like his his initial ventures - Ed Mar Engineering required courage.

A major limitation in clinical medicine was ~~making measurements~~ recording from moving patients, and I used miniature radio transmitters and large tape recorders for EKG. A nuclear physicist Jeff Holter had done the same thing years before and now had a miniature recorder. Bruce ~~he~~ took that recorder and turned it into a

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clinical tool which revolutionized
the diagnosis of heart disease. Avionics
now became grown by leaps and bounds.
+ Mary
Bruce became a world traveler.
He acquired a high performance heli-
copter and gave Mary some memorable
trips and experiences - such as running
into a freak snow storm and landing
in the median of a freeway. Bruce had
no trouble flagging down a ^{curious} fuel truck
which took them to the next town to
spend the night. ^{HP} Bruce continued
development and in addition to becoming
the world's leading and largest Holter

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company. EKG monitoring was extended to stress testing - treadmills, ~~etc~~, EEG, gastric acidity, metabolic gas analysis and ambulatory gas analysis blood pressure recording. I used Del Mar recorders to make the first ambulatory EKG and blood pressure recordings in space.

Bruce demonstrated his versatility ~~to~~ by successfully ~~developing~~ ^{innovating} entertainment ^{entertainment} the commercial field ~~and~~ or a ~~an~~ revolutionary production process.

As time passed Bruce put

began into action the final finishing chapters of ~~an~~ what ~~is~~ became obvious as an ~~incredibly~~ amazingly well planned life.

~~The~~ Companies and ~~Resources~~ ^{unique} were reorganized and Technical development properties were sold to organizations capable of maintaining. He had supported researchers and especially youth organizations and this was increased, without the bulky too which usually accompanies such giving with the aid of family he donated original records to and hardware to the

(Sp?)

Smithsonian institutions and the Hill
helicopter where 4 examples of his
~~our~~ Del Mar products are on display. Above
all he organized support for the
succeeding generations of his and Mary's
children.

Bruce we salute you for a
most remarkable life and for the
opportunities for working with you in
it.

Bruce has written a biography
of many of these events entitled
"Ready for Takeoff" Bruce, we
~~start~~ are looking forward to your
flying Del Mar Avionics
Takeoff in your second century.