WHITESKY
AVIATION

RESUME

WHITESKY
AVIATION

Name
Toos Sanitioso

Current Position
Managing Director
WHITESKY AVIATION

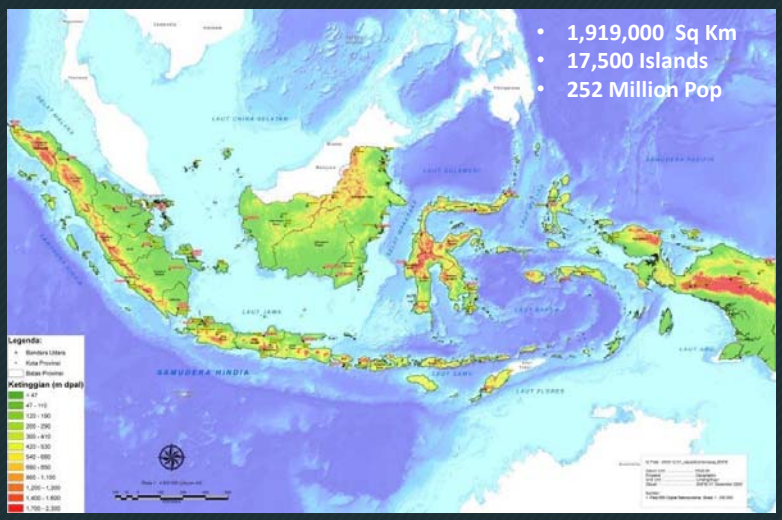
Experience
- Chief Test Pilot & Vice President Flight Indonesia Aerospace
- Air Safety Investigator Indonesia NTSC

Membership
- ISASI – International Society of Air Safety Investigator
- SETP - Society of Experimental Test Pilot

Agenda

- Indonesia geography
- Helicopter history in Indonesia
- Helicopter line of business
- Challenges
- Conclusion

Indonesia Geography



Helicopter Operator

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1970's → 1980's → 1990's → 2000's

- Derazona
- NUH
- Pelita
- ATA
- IAT
- Airfast

- Gatari

- Travira

- Heavylift
- Whitesky
- Mathew
- Air Pacific
- Jonlin
- TWA

Helicopter Line of Business

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- OGP/ Mining support Operations
- Aerial/ Geological survey
- Medical evacuation
- Power line patrol/ maintenance
- Tourism/ sight seeing
- Executive transport
- Forest Fire fighting
- Media/ News
- Logistic Transport

Helicopter Type Used

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Airbus	•AS 332 •EC 130 •EC 145 •EC 135	
Bell Helicopter	•Bell 412 •Bell 212 •Bell 430 •Be;ll 429 •Bell 407 •Bell 206	
Kamov	•KA-32 11BC	
Sikorsky	• Skorsky 76	

Logistic Transportation

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Logistic Transport

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Papua Area

- Absence of land transportation infrastructure, hostile environment creating high demand of Aviation transportation
- High demand for large Helicopter, with long line capability

OGP Operation Area

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OGP Operation

- Longer distance and deeper sea
- Required larger longer range new generation Helicopter

Power Line / Pipeline Patrol

- Increasing demand of powerline patrol with the increasing of transmission network
- Pipeline patrol currently limited only in Sumatera and Jawa area

Forest fire fighting

- Kalimantan and Sumatera, very prone to forest fire especially during dry season (August to October)

Medical Evacuation

- Emergency ambulance services
- Trauma center
- Interhospital transport
- Paramedic transportation

VARIOUS PURPOSES OF HEMS

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Medevac is used for the critically ill and for people who cannot travel long distances because of age, limited mobility or illness. Medivac is also useful for people living in remote locations or areas of difficult access where suitable medical facilities are not available. Medevac is also used for individuals whose medical needs would not be fully met by a ground ambulance.

HELICOPTER EMS (HEMS)

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HEMS

Emergency medical evacuation aircraft or Medivac/Medevac is the fastest and most efficient method of transporting and flying people needing immediate medical attention. Medivac is basically an aero-medical emergency transport service that saves lives by saving on time.

The Purposes of Heli Medevac

- Traffic Accident/ disaster site evacuation
- Inter Hospital transportation
- Transplant organ transportation
- Inter hospital doctor transport
- Doctor/ paramedic transportation
- Airport transfer when other meaning of transport are required

Environments Conditions

- Vibration level
  (Preferably < 0.1 Inch Per Second}
- Suitable comfortable cabin temperature
- Sufficient level of lighting

Type of Helicopter Air Ambulance

- EMS- Emergency Medical Services/ Dedicated/ well equipped Helicopter aircraft. Breathing apparatus
- Heli Medivac - Emergency use for disaster, accident site transport. Non equipped Helicopter medical transport (Medevac)
- Quick change utility Helicopter

Requirement of air ambulance

Air Ambulance movements are time sensitive and require an experienced operator to ensure the highest level of safety for the patient. Air Charter International has a network of the best Air Ambulance Operators worldwide to ensure the smoothest operation possible

HEMS SAFETY ISSUE

- The main mission of EMS Helicopter is saving life, however hundreds of fatal accident have occurred since 1987.
- Various cause of accident have been discovered: ground obstructions, very short time dispatch preparation time, weather minima, poor visibility, un familiar landing site, unfavorable crew duty time schedule.
- FAA (Federal Aviation Administration) and NTSB have been worked very seriously in order to improve the EMS operate

EMS IS A HIGH RISK MISSION

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These flights are inherently more dangerous than commercial aviation. Pilots have little time to prepare for missions, and they must land in areas not designed for helicopters, dodging trees, power lines and buildings. In fact, over the past two decades more than 200 EMS helicopters have crashed, killing at least 150 people.

Medical Helicopter Accident

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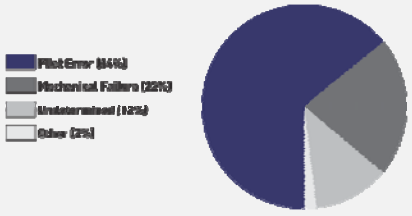
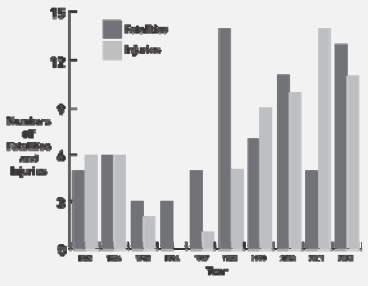
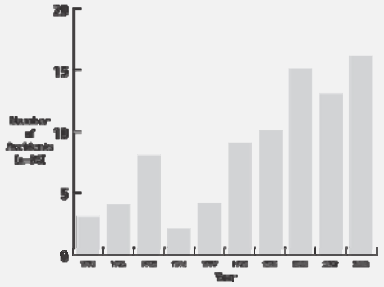


U.S. Medical Helicopter Accident



U.S. Medical Helicopter Fatalities and Injuries by year (1993-2002)



U.S. Medical Helicopter Accident by Year (1993-2002)

HIGH COST ANALYSIS OF HEMS

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- Much more capable helicopter (New price for an EC135 which is a popular medevac helicopter is $4M, vs. your $500/hr R22 which is $250k.
- This helicopter is mostly on stand by, ready to go and hence not utilized as well from an economic perspective as if it was flying all the time.

HIGH COST ANALYSIS OF HEMS

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- Very experienced and well trained pilot on stand by next to the helicopter 24/7
- Very experienced EMT and nurse, on stand by next to the helicopter
- 24/7Advanced and expensive airborne medical gear Expensive night vision goggles for the pilot

HEMS IN INDONESIA

- Challenges
- Affordability
- Infrastructure, Hospital Helipad
- So much restriction from regulation side
  - NO Night VFR
  - Sun rise to Sun set operation only
- High operating Cost ($ 10,000/mission)

Challenges

Helicopter pilot shortage

Indonesia Helicopter Pilot Population

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No.	Company	Number of Pilot			TOTAL
		<50 yrs	50-60 yrs	>60 yrs	
01	Pelita Air	52	15	3	70
02	Travira Air	34	20	3	57
03	Indonesian Air Transport		6	5	11
04	N U H	4	9	3	16
05	Airfast	4	12	2	18
06	Gatari		4	4	8
07	Derazona		7	4	11
09	Air Pacific		4	1	5
10	Heavy Lift		5	3	8
12	Pegasus		1	1	2
13	Sampoerna		8		8
14	White Sky		5		5
15	Mathew		3		3
16	Jon Lynn		2		2
17	Airborn		3		3
	TOTAL	94	104	29	227

Challenges

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- Regulations, no Night VFR operations.
  Preventing 24 hour basis Helicopter emergency services

Challenges

Absence of Night VFR within CASR, has restricted the maximum utilization of Helicopter. Although most of Helicopter now are equiped with sophisticated equipment, Heli TAWS, Acurate GPS etc.

Challenges

- Reduced number of Helicopter required as result of technology improvement and modernization (remotely operated etc)

Challenges

- Helicopter MRO facility.

Very limited number of OEM MRO center for airframe, power plant and component in the country. More particular engine maintenance center

Challenges

- Lack Helicopter training facility (FTD, Simulator)

The closest training facility:

- China
- Dubai
- UK
- USA

Challenges

Restriction for Helicopter to fly in to Jakarta Airport since 2 years ago

Challenges

A very promising future of helicopter business in Indonesia,

With the improvement of :
Infrastructure, Human resources, Regulation

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Thank You

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VIDEO