

Simulation permits risk-free training for emergency situations

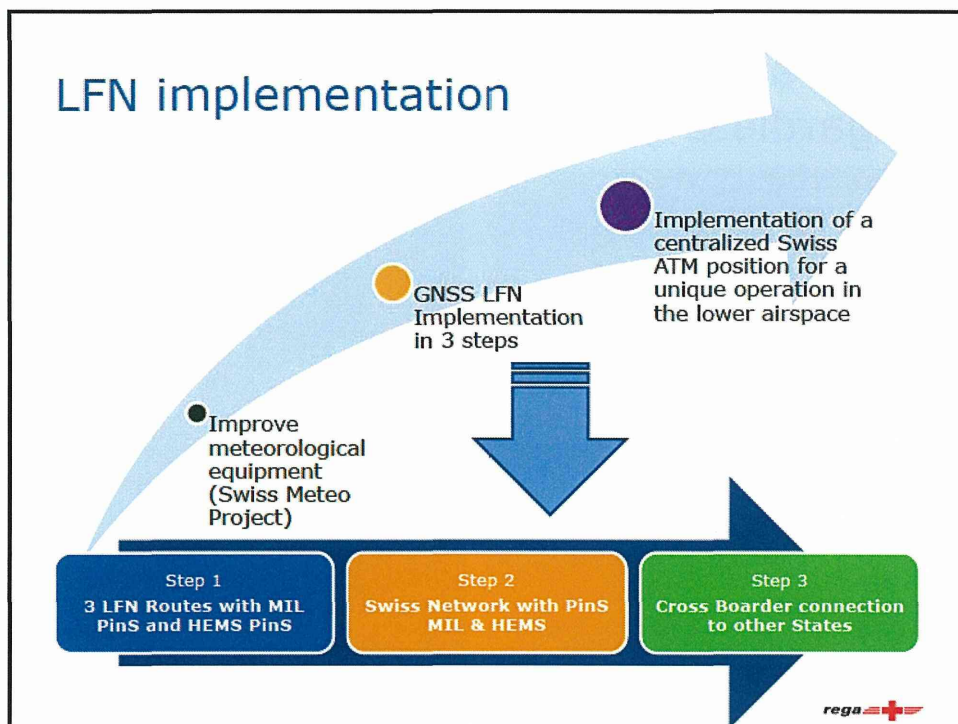
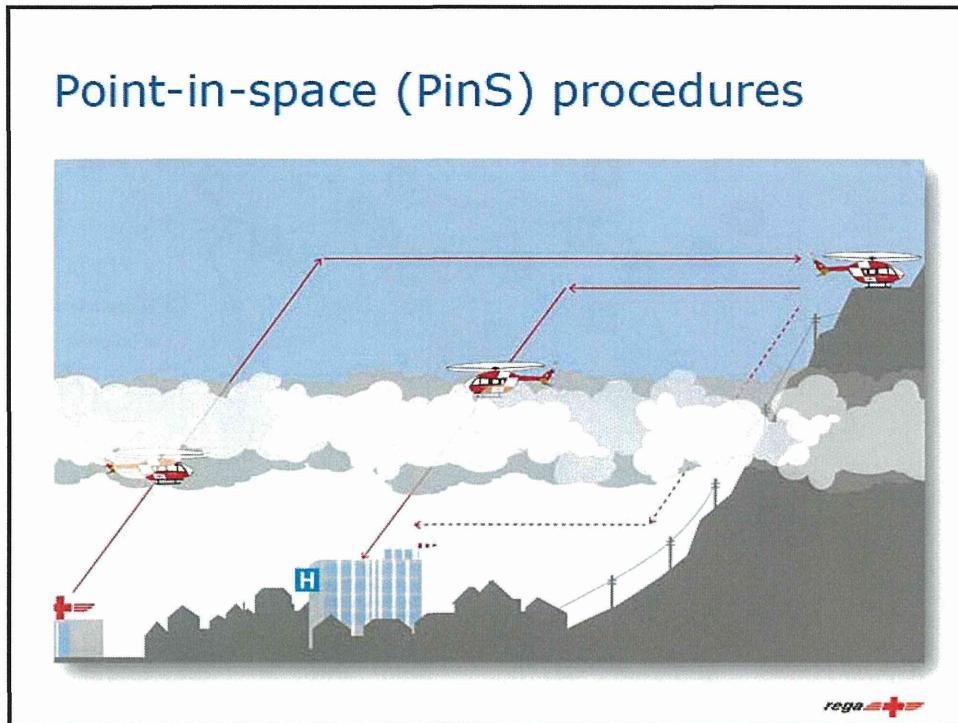


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Electronic flight bag

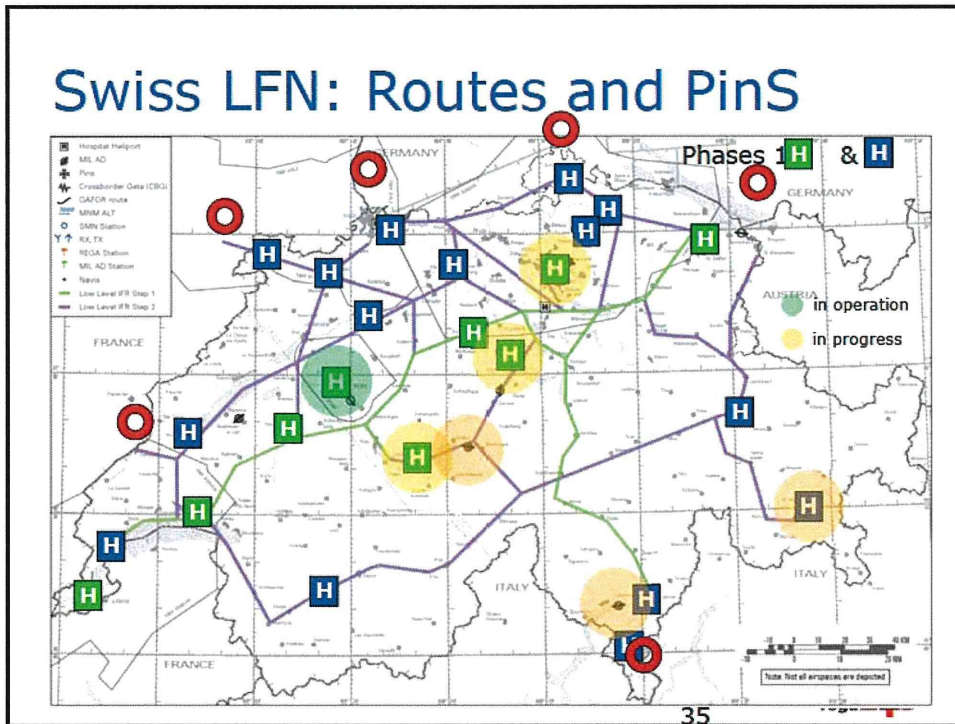


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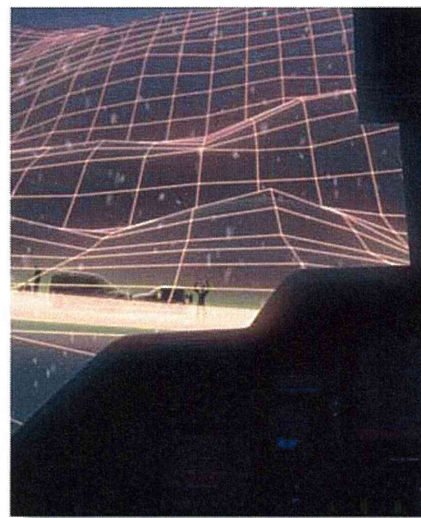
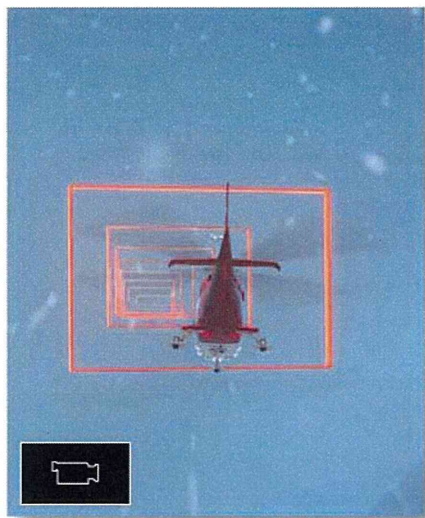


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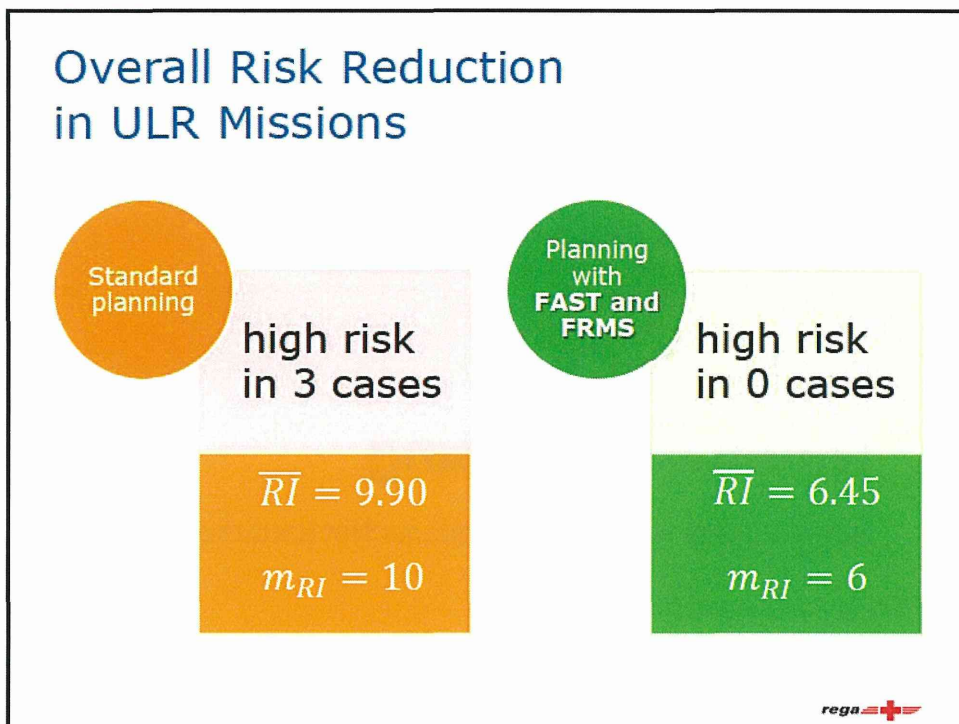
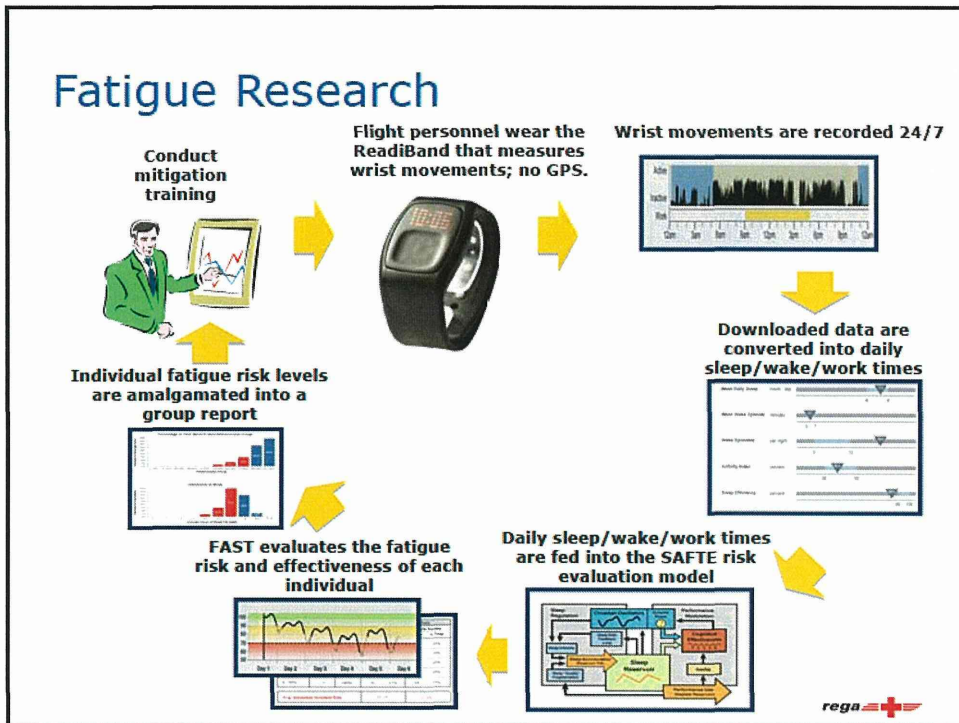


Rega's vision: Air-rescue missions regardless of weather and visibility



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Air Rescue



Medical quality comparison

Originalen

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Prähospitale Traumaversorgung

Luftgestützter vs. bodengebundener Notarztdienst

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Comparing medical quality

Mean	n	Variable	Average	SD	Median	Min.	Max	Range
HEMS	104	MEES ₁	19,5	2,9	20,0	13,0	25,0	12,0
	104	MEES ₂	24,5	1,8	25,0	20,0	28,0	8,0
	104	ΔMEES	5,0	2,0	5,0	0	9,0	9,0
Ground EMS	172	MEES ₁	21,2	2,2	22,0	16,0	25,0	9,0
	172	MEES ₂	20,2	2,3	20,0	13,0	24,0	11,0
	172	ΔMEES	-0,9	2,4	-1,0	-7,0	8,0	15,0

Mean	Ventil. days	ICU days	Clinic days	ISS	ER time in h	Pre-hospital in min.
HEMS	7,29	11,29	26,35	30,92	0,75	45
ground EMS	11,5	15,05	33,19	29,75	1,58	90

(Weninger, Trimmel, Herzer, Nau, Aldrian, & Vécsei, 2005)



Multi-centre evaluation of Medical quality

Originalien

A. Biewener · U. Aschenbrenner · S. Sauerland · H. Zwipp · S. Rammelt · J. Sturm
 AG Notfallmedizin der DGU
 Klinik und Poliklinik für Unfall- und Wiederherstellungschirurgie,
 Klinikum Carl Gustav Carus, Technische Universität, Dresden

Einfluss von Rettungsmittel und Zielklinik auf die Letalität nach Polytrauma

Eine Standortbestimmung

(Biewener et al.)



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Further medical advantages

ORIGINAL RESEARCH

Air Medical Transport of the Injured Patient: Scene versus Referring Hospital

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Abstract

Introduction: In a rural service area, does the outcome of air medical patients transferred from the scene of injury differ from that of patients transferred from a primary receiving hospital?

Introduction

The literature clearly supports a decrease in preventable death and an improvement in outcome with regionalized trauma care.^{1,6} Part of this decrease in preventable death may be a result of the



Safety advantage by HEMS

Mean	Accidents per 100,000 missions
HEMS	4 - 5,4
ground EMS	55

(Bruhn, Williams, & Afghababian, 1993)
 (Thies, Sep, & Derksen, 2006)
 (Hinkelbein, Dambier, Viergutz, & Genzwürker, 2008)



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Major Trauma: Direct and indirect Costs

	All Patients		Patients fit to work after accident		Patients not fit to work after accident	
Emergency services	1,400	0.2%	1,220	0.6%	1,750	0.1%
Hospital	39,650	5.1%	23,620	11.1%	69,160	3.7%
Rehabilitation programmes	228,570	29.3%	78,610	37.5%	507,980	27.5%
Sort term loss of productivity	109,710	14.0%	57,660	27.5%	206,720	11.2%
Long term loss of productivity	411,650	51.4%	49,000	23.4%	1,058,700	57.4%
Total	780,980 CHF		209,750 CHF		1,844,310 CHF	

Jean-Marc C. Häusler, Heinz Zimmermann, Benno Tobler, Beat Arnet, Jürg Hüsler

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Impact of a new helicopter base

- Included patients: 1,766
- ISS >15: 204 (56 before and 148 after implementation)
- 6.4% unexpected survivors after implementation

EMS system		ISS	NISS	Head AIS>3	PH ETI	Mort. <30d	Total Mort.
without PS-HEMS	n=56	25	33	23	8	16	18/448
		17-45	17-50	41.1%	14.4%	29%	4%
with PS-HEMS	n=148	25	29	47	34	21	29/1318
		16-43	17-57	31.8%	23.0%	14% *	2.2% *

(Hesselfeldt R, Steinmetz J, Jans H et al., 2013)

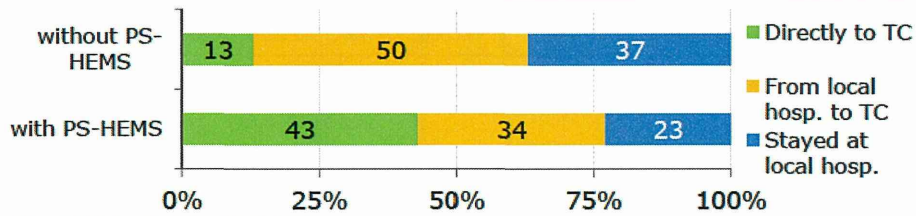
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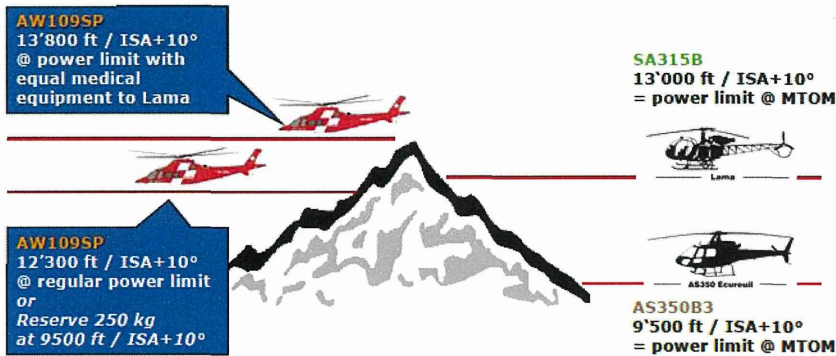
Impact of a new helicopter base

EMS system		Disp. to initial hospital	Disp. to Trauma Centre	Disp. to Trauma Centre (GRD)
without PS-HEMS	n=56	52 min.	218 min.	218 min.
		21-103	54-832	54-832
with PS-HEMS	n=148	60 min.	90 min.*	219 min.
		24-96	57-458	59-925



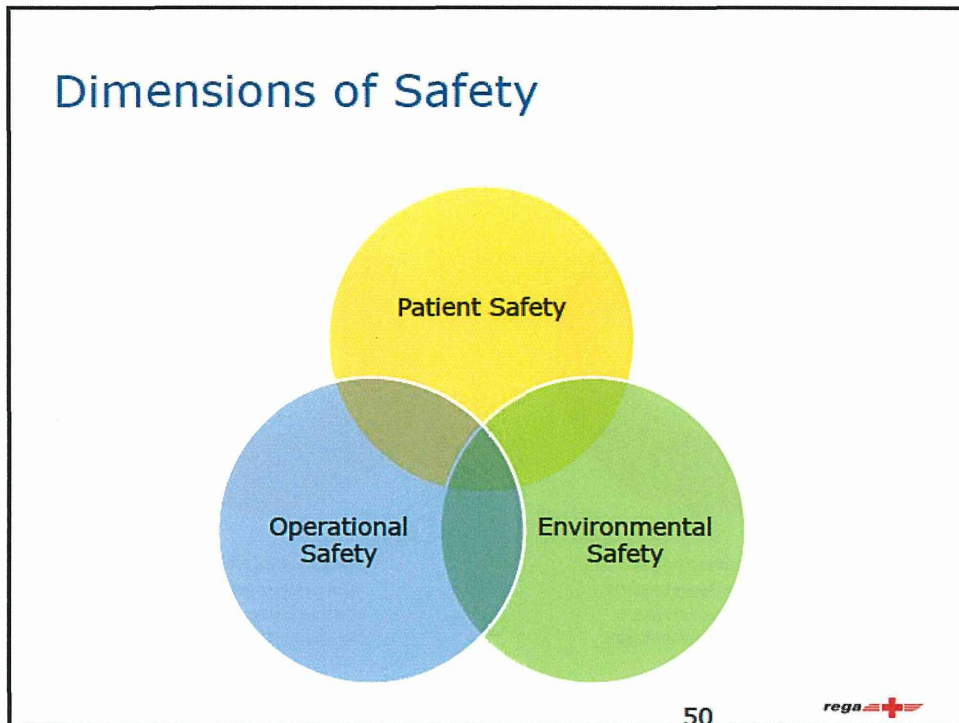
(Hesselfeldt R, Steinmetz J, Jans H et al., 2013)

**Comparison HOGGE:
 AW109SP, AS350B3 and Lama**



Operational Parameters	TOM
Takeoff Power	AW109 SP 2870 kg (fully med. equipped)
Fuel ~ 90 min	AW109 SP 2812 kg (Lama equiv. med. equipment)
4 Persons (2 internal / 2 external)	AS350 B3 2250 kg
Full medical equipment	SA315 B 1950 kg (MTOM)

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From Safety, Money and Reliability

Over the last five years, the multi-engined helicopter fatal accident rate has been more than 30% better than that for the singles.

“The people who pay for the service have got to be willing to pay for good operators and best practice”

PAUL HAYES
Safety and insurance director,
Flightglobal Ascend

Paul Hayes (Flightglobal Ascend), 2015

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