

HEMS Introduction Workshop

Beijing, 30 & 31 August 2016
EU-China Aviation Partnership Project



EU-CHINA
中欧民航合作项目 APP





莱奥纳多直升机： 分享知识和经验 共推中国HEMS领域的大发展

Leonardo Helicopters:
Sharing Know-how and Experience to Support HEMS Growth in China

2016年HEMS研讨会 中欧民航合作项目

2016年8月30日， 北京

HEMS Introduction Workshop, EU-China Aviation Partnership Project

Aug 30th, 2016 – Beijing



AgustaWestland Products

 AgustaWestland
A Finmeccanica Company

已改称
is now

 LEONARDO
HELICOPTERS

STRONGER TOGETHER



直升机紧急医疗服务的意义

Why Helicopter Emergency Medical Services?

快速的救助速度

Speed: Rapid time-saving transport

提供地面上不具备的高等级重症医疗救助手段

Advanced Critical Care not provided on the ground

不受路面交通及道路状况影响

Access to unreachable locations and terrains

更好的预后恢复结果

Better patient outcomes

增加一种急救手段

Additional EMS/Transport Resource



HEMS 在美国的发展历程

HEMS Development in the United States

二战 WWII



朝鲜战争
Korean War



越南战争
Vietnam War



民用HEMS
Civil HEMS

经过长期发展后的
美国HEMS行业现状



301家急救医疗供应商

301 Known Air Medical Providers

864个直升机基地 (1045架现役直升机)
864 Helicopter bases (1045 helicopters)

200个固定翼基地 (362架现役固定翼飞机)
200 Fixed-wing bases (362 fixed-wing aircraft)

每年40万直升机飞行小时

400,000 Helicopter flights per year

每年10到15万固定翼飞机飞行小时
100,000 – 150,000 Fixed-wing flights per year

HEMS美国模式 HEMS Models in USA

军用/政府 Military/Government
政府拨款 Government Budget (Taxes)



民用 Civilian, 有以下方式出资 paid by

- 商业保险 Commercial Insurance
- 车险 Automobile Insurance
- 公共医保 Medicare, Medicaid
- 自付 Self pay

医院运营 Hospital Based

- 通常非盈利目的
Typically Not for Profit, Fee for Service
- 医院主导任务, 提供医护人员, 甚至自有机队及相应运行能力
Hospital takes the lead in providing HEMS

社区运营 Community Based

- 盈利为目的
Typically For Profit, Fee for Service
- 飞机运营商主导任务, 自有机队及相应运行能力, 并提供医护人员
Operator takes the lead in providing HEMS



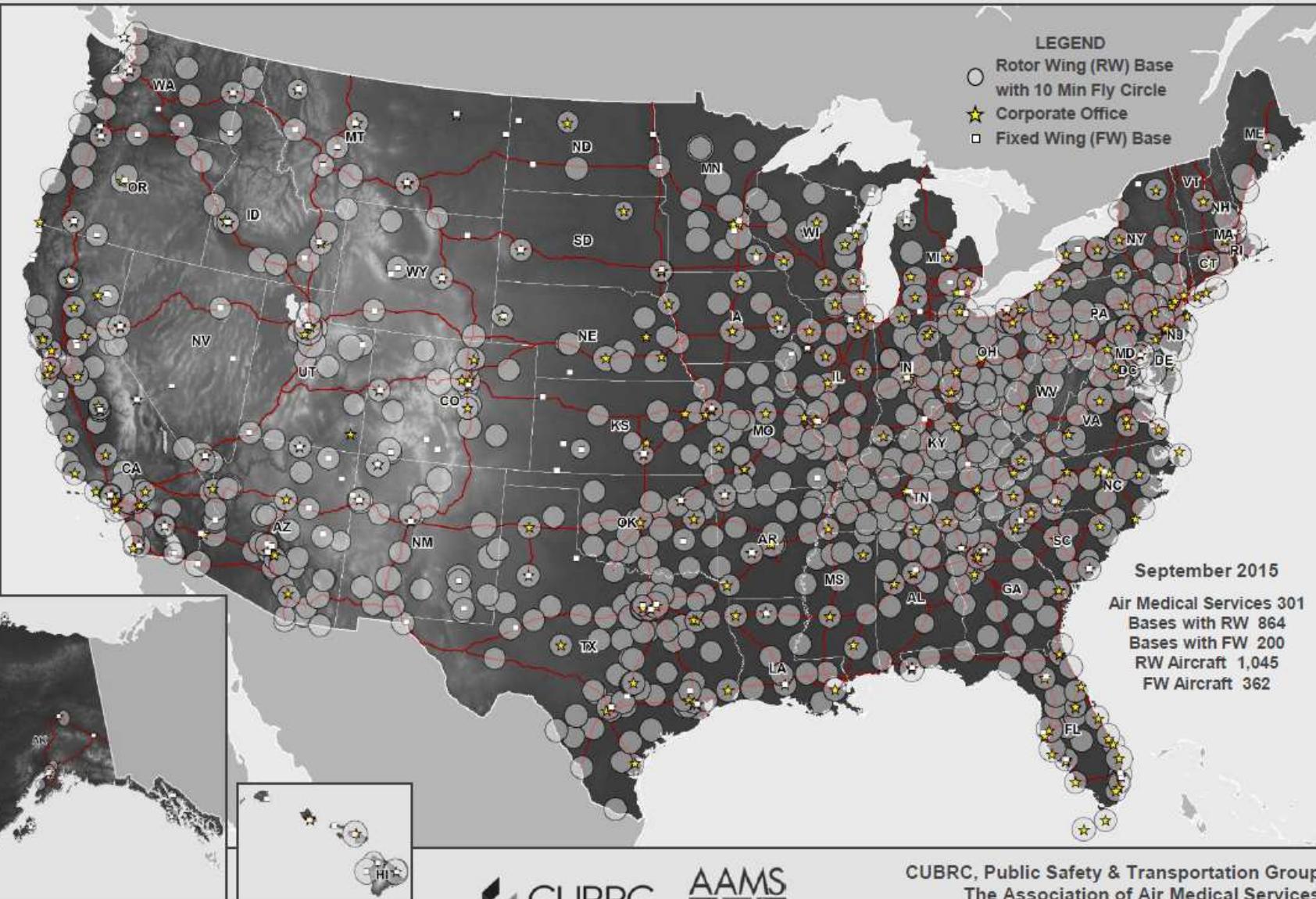
商业模式主导 向民众提供直升机紧急医疗服务
HEMS Delivered through mainly Commercial Programs

Atlas & Database of Air Medical Services



13th Edition National Air Medical Services GIS Database

ADAMS 2015



HEMS在美国的运行规章制度 HEMS Regulations in USA

联邦政府 FEDERAL GOVERNMENT (FAA Part135 Subpart L, No Part91)

任何与直升机运行相关的条例 Anything related to operation of the aircraft

- 最低气象条件 Weather minimums
- 飞行员培训 Pilot training
- 机上设备及飞机维护 Aircraft equipment / maintenance

州政府 STATES

发证批准机上医务人员 Typically license the health care providers on board
对飞机可否进行的工作不做监管 Not regulate what aircraft can/cannot do

医疗运输系统委员会

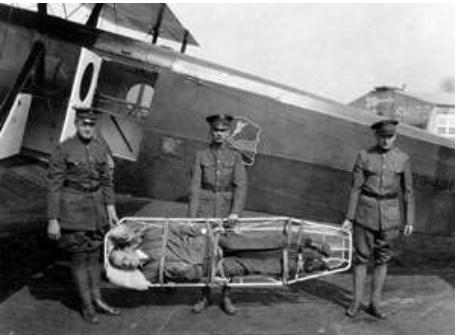
Commission on Accreditation of Medical Transport Systems (CAMTS)

自愿评级 Voluntary accreditation

标准涵盖空中医疗运行的各个方面

Standards addressing nearly all aspects of an air medical operation

HEMS在欧洲的发展历程 HEMS Development in Europe



一战 WW I



二战 WWII



印度支那战争
Indochina War



1970
民用HEMS
Civil HEMS



经过长期发展后的
欧洲HEMS行业现状



30多家主要急救医疗供应商
30 Major Air Medical Providers

400 多个直升机基地

400 Helicopter bases

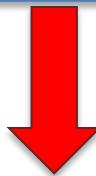
500多架现役直升机
500 Helicopter

每年15万直升机飞行小时
150,000 Helicopter flights per year

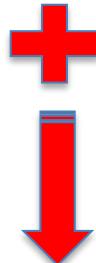
HEMS欧洲模式 HEMS Models in Europe

资金来源 Funds

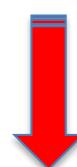
- 政府拨款(主要) Government (Predominant)
- 慈善捐助 Charities
- 私人捐助 Private Donaton
- 公共和商业保险 Public,Private Insurance
- 会员制 Membership



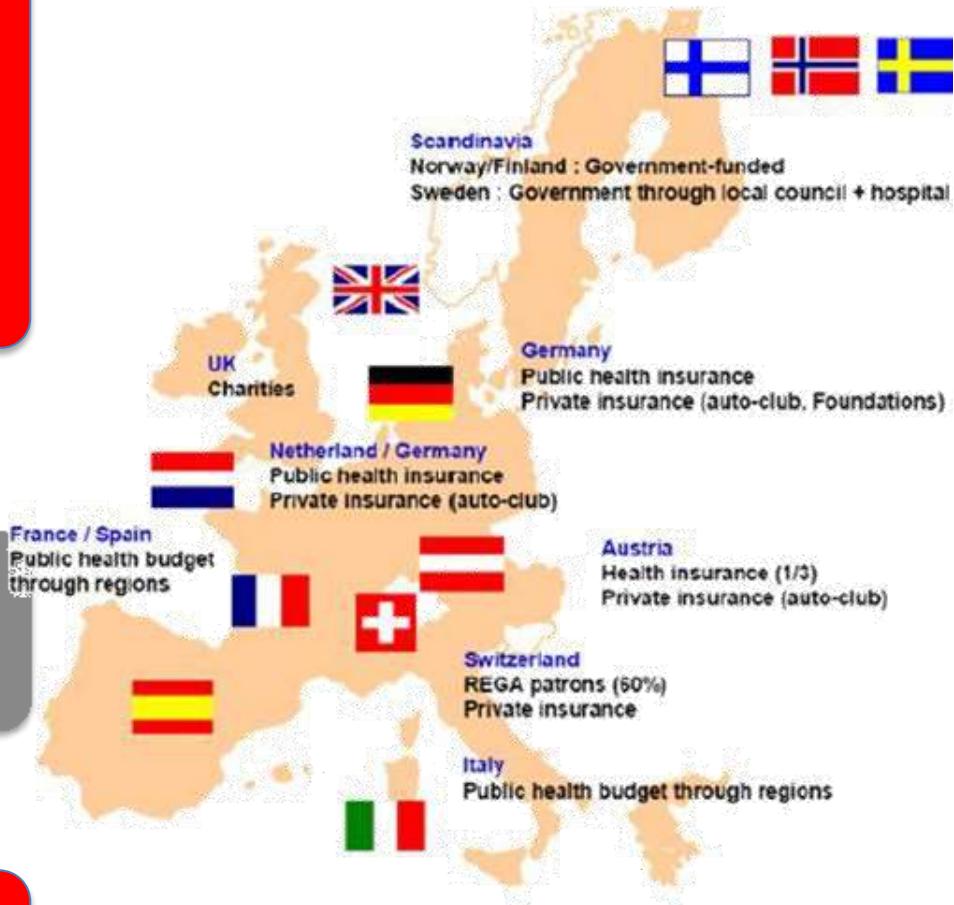
直升机运行商
HEMS OPERATORS
(飞机 机组 H/C, Crew)



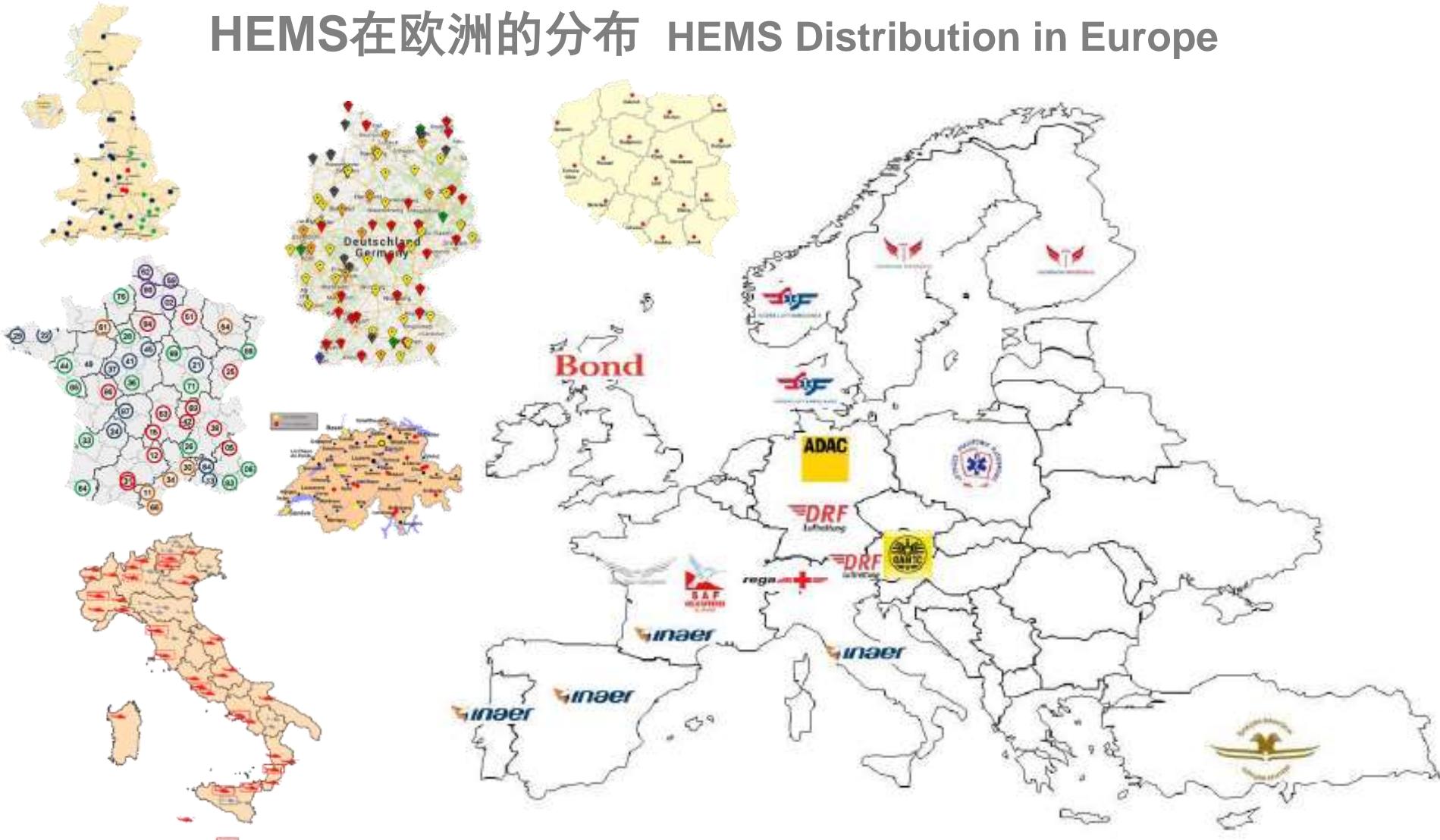
医院
HOSPITALS
(医生、急救员
Physician and Paramedic)



政府主导向民众提供HEMS
HEMS services delivered



HEMS在欧洲的分布 HEMS Distribution in Europe



- More than 40 a/c
- Between 10 and 40 a/c
- Less than 10 a/c

瑞士空中救援机构REGA简介 Rega in Focus



- 私人基金会, 瑞士红十字会成员
Private Foundation, Corporate Member of Swiss Red Cross
- 无政府补贴
No Governmental Subsidies
- 13个直升机基地遍布整个瑞士国土
13 Helicopter bases
- 运营17架直升机 (11 AW109SP, 6 H145)
17 Rega-Helicopters (11 Da Vinci, 6 Eurocopter 145)
- 运营3架喷气固定翼 (Challenger CL-604)
3 Ambulance Jets (Challenger CL-604)
- 347位员工
347 Employees
- 拥有覆盖瑞士全境的呼叫中心
Own Nationwide Alarm Centre
- 2015年执行了15,053次任务
2015: 15'053 Missions
- 超过二百五十万会员/捐献方
>2.5 M. Donors (~30 CHF per year), covers over 60% of financing
- 剩余支出由保险公司、救助公司及私人支付
Rest from Insurance, Assistance Company, and private



HEMS在欧洲的运行规章制度 HEMS Regulations in Europe

欧盟 EUROPEAN UNION

欧盟965/2012号条例 Commission Regulation (EU) No 965/2012

飞机与直升机商业运行相关的详细条例

Detailed Rules for Commercial Air Transport Ops with airplanes & helicopters

- 技术要求 Technical Requirements
- 行政程序 Administrative Procedures

自愿条例

Voluntary Rules

- EHAC – European HEMS & Air Ambulance Committee
- CEN – Committee for European Normalization
- IKAR - International Commission for Alpine Rescue
- AAA - Association of Air Ambulances (UK)
- A.F.H.S.H. - Association Française des utilisateurs d'Hélicoptères Sanitaires Hospitaliers (France)
- HEMS H7EMS – Mountain HEMS Association (Italy)

我们的HEMS使命 Our Mission in HEMS

授人以鱼，不如授之以渔，授人以鱼只救一时之急，授人以渔则可解一生之需
“Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime”



2016里程碑：莱奥纳多直升机全力支持正阳集团HEMS先锋事业

2016 Milestone: Leonardo Working with Zenisun to Trailblaze HEMS in China



25架AW119Kx EMS构型直升机成为中国首个商用HEMS项目的开拓者
25 AW119KX EMS Helicopters lead the way for China's first commercial HEMS program

努力协助正阳集团建立一流的HEMS运行基础

Working Hard to Build Up a Solid HEMS Foundation with Zenisun Group



努力协助正阳集团建立一流的HEMS运行基础

Working Hard to Build Up a Solid HEMS Foundation with Zenisun Group



协助建立协同HEMS系统流程 Support to Establish Coordinated HEMS System



1. 打给120
Call 120 for help



2. 呼叫中心根据情况派遣直升机
Emergency Dispatch Centre sends an a Helicopter based on situation assessment



3. 直升机前往事发地点
Helicopter flies to the scene



6. 送至医疗中心
Transfer to the Medical Center



5. 患者/伤员送上直升机
Patient loaded into helicopter



4. 现场施救
On-scene medical assistance

急救医疗救助流程 HEMS Mission Operator Procedure

收到求救电话
Incoming Call

收集任务信息
Gather Transport Information

确定执飞飞机
Identify Appropriate Aircraft

飞机人员待命
Activate Aircraft & Crew

跟踪飞机
Track Aircraft

客户状态更新
Customer Status Updates

完成任务文件
Transport Documents Completed

任务质量评估
Quality Review



协助建立医院，运营中心，呼叫中心三位一体的运行模式

Operational Control Center Based at Hospital



- 空中急救医疗服务的运营控制中心与呼叫中心以医院为基地
The Operational Control Center (OCC) is co-located with the Communications Center.
- 运营控制中心参与每一次飞行任务
They are involved in every flight request that comes into the Communications Center

2016里程碑：莱奥纳多直升机全力支持中国警航公共救援事业

2016 Milestone: Leonardo Fully Supporting Chinese Police Aviation in Public HEMS/SAR

2016年警航新成员：热烈欢迎云南警航加入阿维直升机用户大家庭

2016 New Police Member : Honored to Have Yunnan Police into Leonardo Family,

2016年全力支持浙江警航机队新增两架AW139扩编计划

Proud to Support Zhejiang Police Fleet Expansion of Two New AW139s



2016里程碑：莱奥纳多直升机全力支持中国警航公共救援事业

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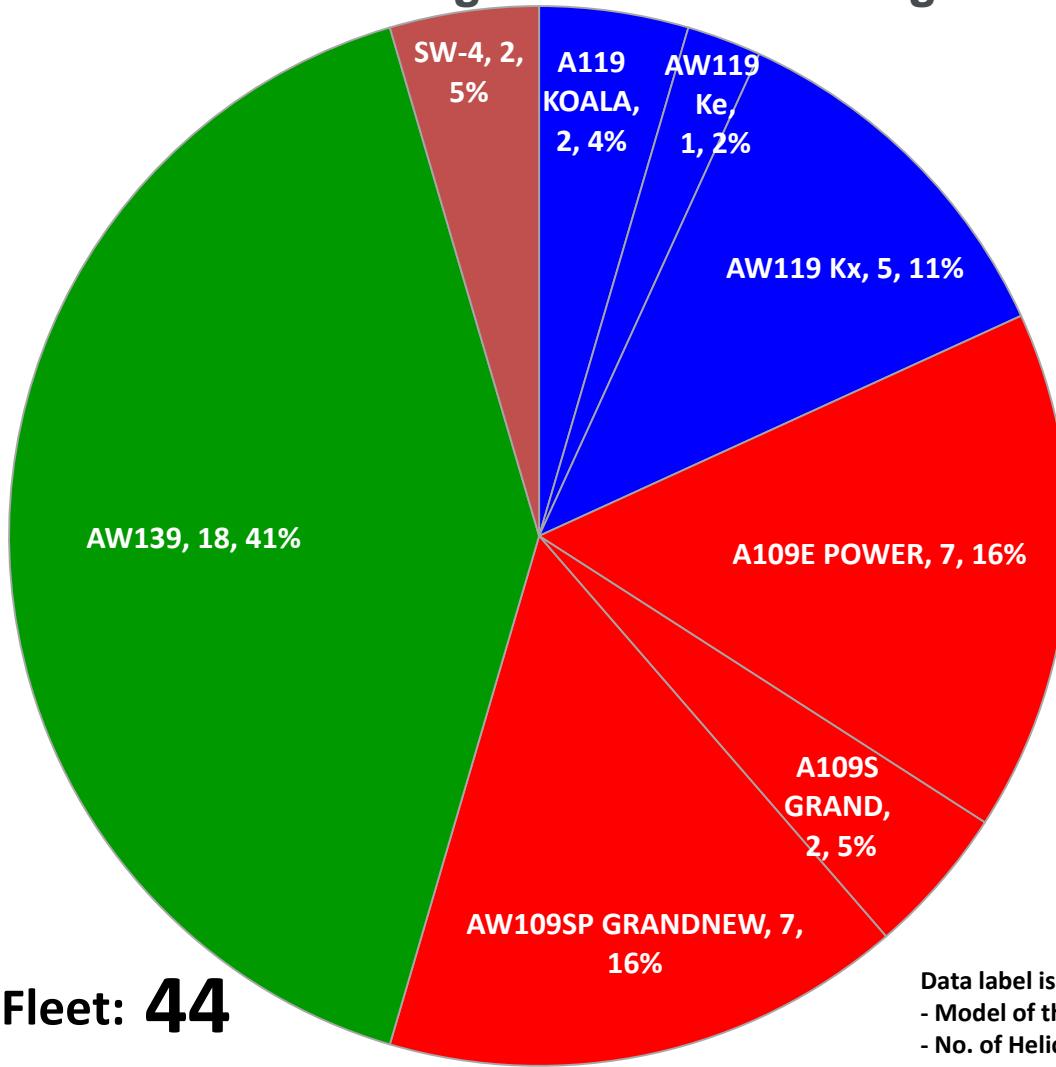
阿维警航机队分布

Active Law Enforcement AW Fleet Locations



各个机型表现都很强劲

Each Model is Performing Well in Various Segment



**Active Civil
Leonardo Helicopters Fleet: 44**

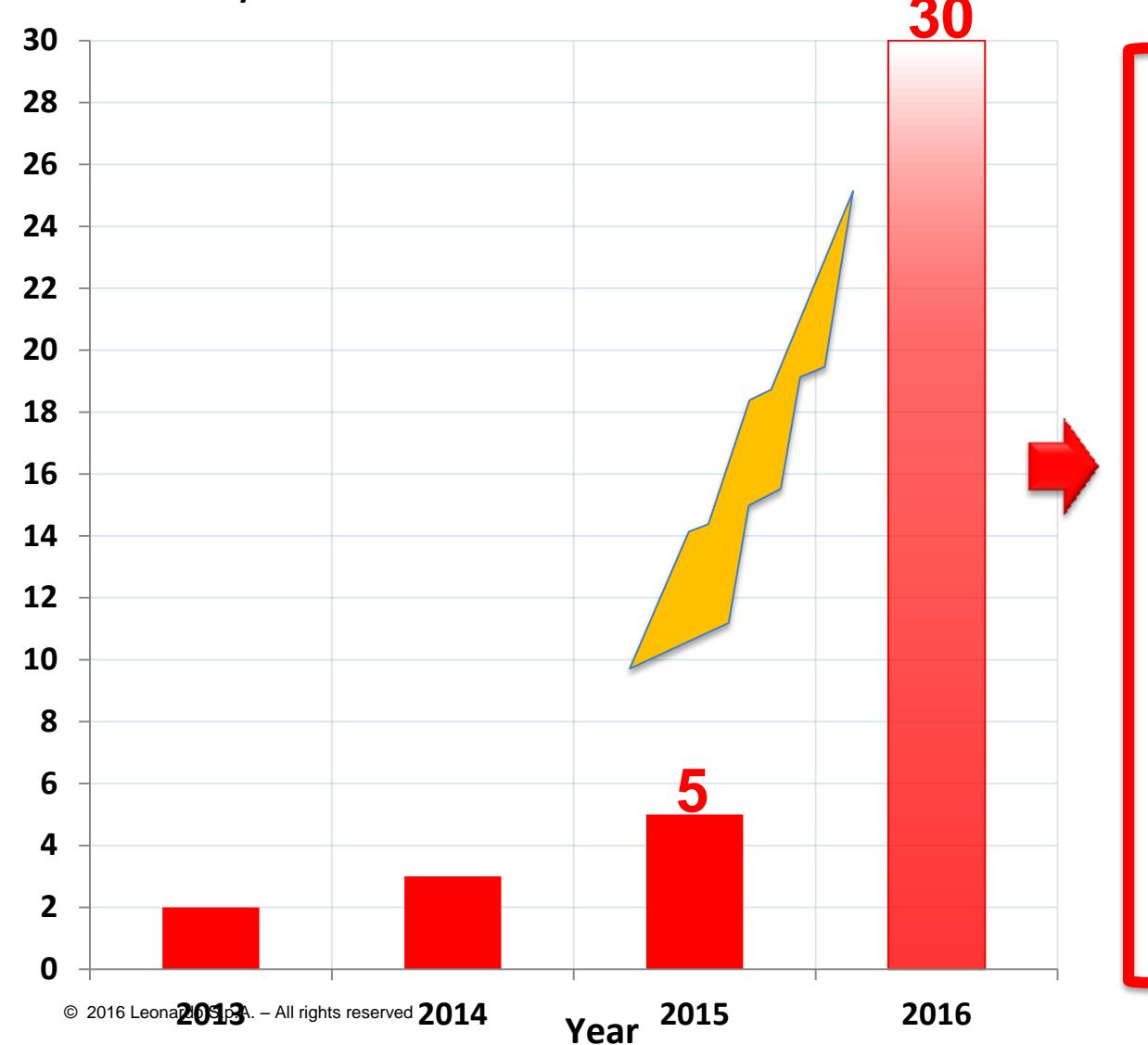
Data label is displayed in the sequence of:
 - Model of the Helicopter
 - No. of Helicopters in that Model
 - Percentage share of the AW fleet

AgustaWestland Products

机队规模在2016年大幅增长，机队会成倍扩张

Exponential Growth in 2016, Fleet will Almost Double in a Single Year

Aircraft Delivery in Mainland China Each



SW-4:

3 to be delivered within 2016



AW119Kx:

17 to be delivered within 2016



AW109SP:

3 to be delivered within 2016



AW139:

7 to be delivered within 2016

AgustaWestland Products



中国是阿维全球战略中心，售后是阿维中国战略重心

**China is the Strategic Focus of Leonardo Helicopters,
Customer Support Enhancement is the Strategic Focus of Leonardo in China**

阿维中国团队继续扩大 Further Increase of the AW Team deployed in China

2016年 售后服务方面，下列员工将加入中国团队：

During 2016, at least following additional customer support personnel will be seconded in China:

- **3名售后服务经理 3 CSM**
- **6名现场服务代表 6 FSR**

2016年底，阿维驻华人员总数达到20人，其中售后服务人员15人

Within 2016, total AW personnel in China: 20, 15 are Customer Support Personnel

中国国内备件库建设 Material available On-site

备件库设在国内，备件可从境内，直接运往客户基地。

Spare Parts will be available in China for direct shipment to the customers:

- 上海备件库 2016年7月内运行 Warehouse in Shanghai → Operational in July 2016

境内授权服务及备件中心 Service and Parts Center in China



MTOW 3.2 ton
1/2Pilot – 6 Pax
Two Stretchers



MTOW 3.2 ton
1/2Pilot – 6 Pax
Two Stretchers



MTOW 2.9 ton
1/2Pilot – 6 Pax
Two Stretcher



MTOW 4.8 ton
1/2Pilot - 8 Pax
Two Stretchers



MTOW 7 ton
1/2Pilot – 15Pax
Four Stretcher

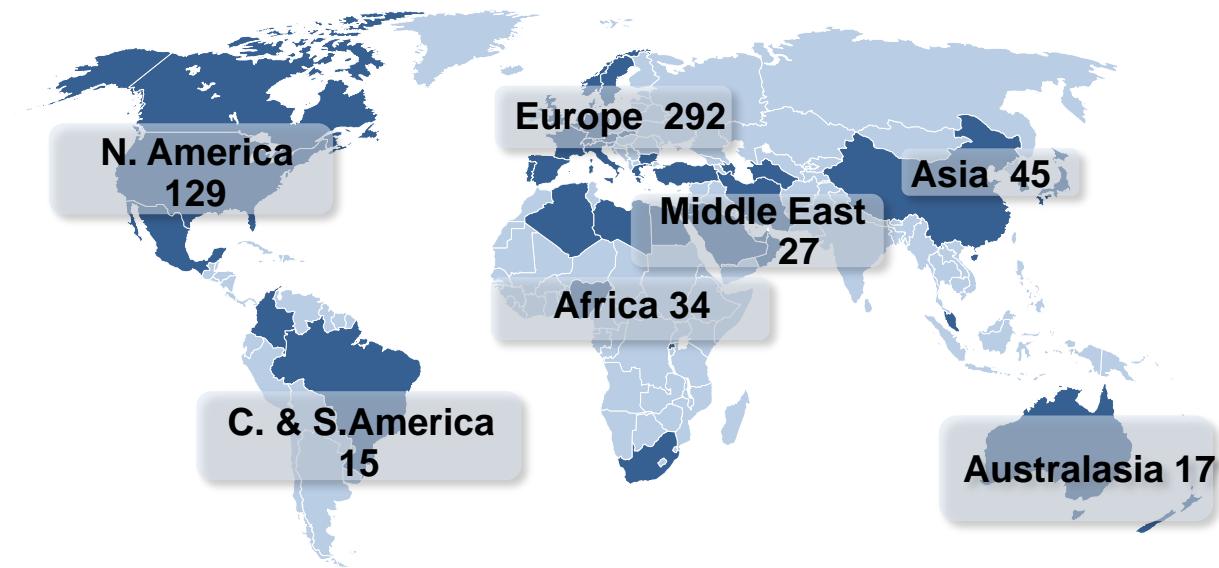


MTOW 8.6 ton
1/2Pilot – 19 Pax
Four Stretcher



莱奥纳多直升机全球EMS/SAR 机队分布

Leonardo Helicopters in the EMS/SAR market



More than 550 Helicopters for the HEMS/SAR market in 40 Countries

AW 119Kx

单发王 多面手 Most Capable Single Engine Ever



- 单发3吨级，单发直升机中起飞重量最大
Single 3ton MTOW, largest in Single Engine Class
- 最新集成式航电系统，驾驶舱视野极佳
Adv. Glass Cockpit. Great Cockpit View
- 同级别中速度最快，性能最强
Highest Speed and Best Performance in Class

AW 119Kx

单发王 多面手 Most Capable Single Engine Ever



- 单发直升机中唯一能放置双担架的机型
Only Single Engine Helicopter has double stretcher capability
- 机上医护人员能照顾到病患全身
Medical crew on board can cover the patient from head to toe



高性能轻型双发的领军者 The Leader of High Performance Light Twin



- 双发3.2吨级
Twin 3.2ton MTOW
- 先进航电仪表飞行能力极强
Adv. Avionics guarantee IFR Capability
- 同级中最高功重比最高 A类
性能最强 速度最快
Highest Power/Weight Ratio, Best Cat A Performance, Highest Speed

AW109

GRAND NEW

高性能轻型双发的领军者 The Leader of High Performance Light Twin



- 2名飞行员 2 Pilots
- 1副担架及4名随机医护人员
1 stretcher with 4 crew
- 2副担架及2名随机医护人员
2 stretcher with 2 crew

4. 8吨级 轻中型双发直升机的新标杆 4.8 Ton Class: New Reference for HEMS



座舱触屏系统 Touch Screen



AW169

4. 8吨级 轻中型双发直升机的新标杆 4.8 Ton Class: New Reference for HEMS



AW139

延续经典，再创辉煌

The Best Just Got Better!

起飞重量增至7吨 New 7 Ton



AW139

延续经典 再创辉煌 The Best Just Got Better!



AW 189

8. 6吨超中型HEMS的领军者
8.6Ton Super-Medium Leadership



数字集成驾驶舱
Full Digital Cockpit



2,055公斤腹部油箱
2,055Kg Fuel Tank



50分钟干运转能力
50 min dry-run



AW 189

8. 6吨超中型HEMS的领军者 8.6Ton Super-Medium Leadership



超大的无障碍客舱，可以存放多余的担架和其他设备

Large unobstructed access to storage compartment with capability to store stretchers and equipment





引领空中急救医疗新未来
Leading the Future of HEMS



全球首款民用倾转旋翼机

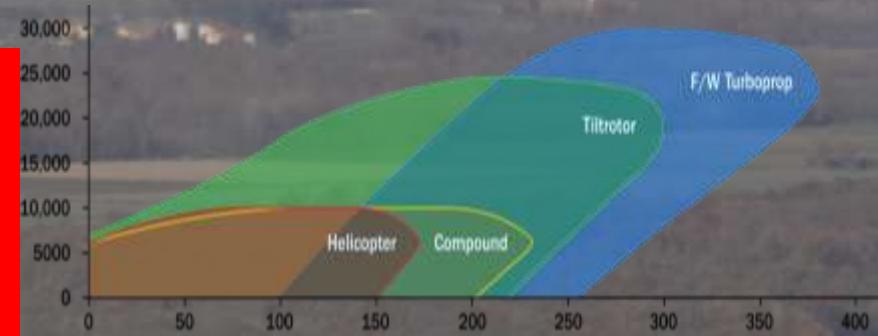
First Ever Commercial Tiltrotor

用无与伦比的速度和垂直起降能力拯救更多的生命

Save more lives with unmatched speed and VTOL Capability

预计2018年获得FAA适航认证

Will Achieve FAA Certification in 2018



引领空中急救医疗新未来 Leading the Future of HEMS



8吨级 8Ton Class

2 名飞行员

2 Pilots

1副担架及至多6名随机医护人员

1 stretcher with 6 crew

2副担架及至多3名随机医护人员

2 stretchers with 3 crew





谢谢！Thank you!

张建业 Jianye «Gianni» Zhang
莱奥纳多直升机中国区大区销售经理
Regional Sales Manager China
Leonardo Helicopters



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