

Aviation training in Finland 2017

Heikki Tapani Keskikuru
14 September 2017



Aviation in Finland

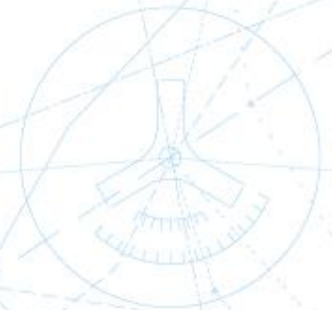


<https://www.youtube.com/watch?v=w8-wyzF0NcU>



Aviation in Finland

- Montgolfier brothers 1783
- First manned balloonflight in Finland 1784
- Wright brothers 1902
- Adolf Arno 1911, „Demoisele“
- Kasper Wred 1915 , „own design“



Aviation in Finland

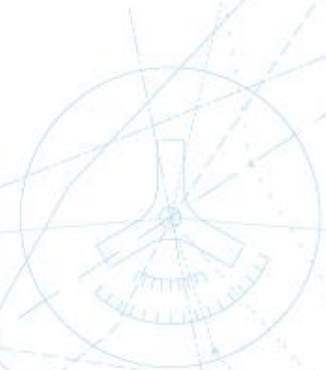
- AERO OY 1923 (Finnair) , one of the oldest airline still operating
- First Flight Helsinki-Tallinn March 1924



Aviation training in Finland 2017



- **Military Aviation training**
- **Civilian Aviation training**



Aviation training in Finland 2017



- **Military Aviation training**
 - Pilot
 - Technical
 - ATC



Aviation training in Finland 2017



- **Civilian Aviation training**
 - Pilot
 - FINAA, Patria, Salpauslento, Aeropole, Finnair Flight Academy and Coptersafety
 - Technical
 - ATC
 - Cabin Crew
 - Airport Staff

Military Aviation Pilot Training



Compulsary military service for all male, voluntary for female citizens

- As rule - Three different lengths for military service 165, 255 or 345 days
- All aviation linked services 345 days
- Military Aviation training in Jyväskylä - Tikkakoski airport - EFJY



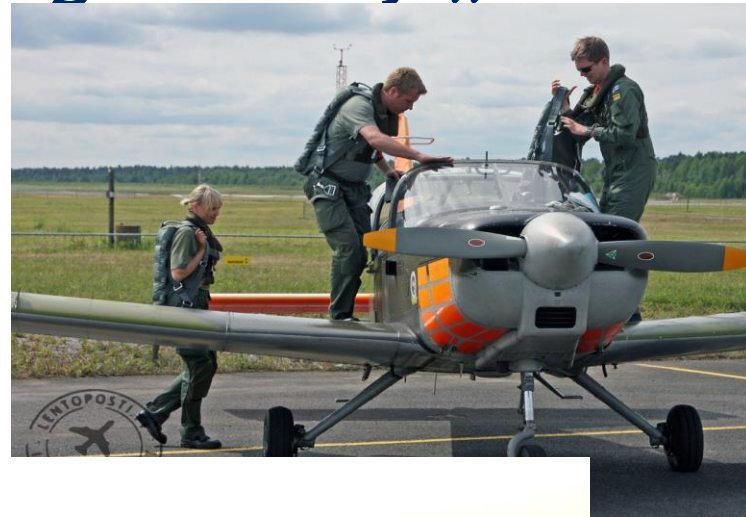
Military Aviation Pilot Training

- Pilot training in EFJY Finnish Airforce Academy, annually 35-40 students ,
Basic flight training -single-engine -
ending with some aerobatics and IFR
- Basic Flight training provided by a
company „Patria“
- (half owned by the state, other half
Kongsberg defence systems)
- Instructors former FAF pilots



Military Aviation Pilot Training

- Basic Flight training done by „Patria“ with L-90 Vinka
- New type Grob G115E is replacing Vinkas by 2018





**After Basic training 10-18 students
are accepted for National Defense
University, ~210 credits , BAE HAWK**

During defense University >
Division to specialties

➤ Military Fixed wing F-18 D



Division to specialties

➤ Military Fixed wing C-295



Division to specialties

➤ Military Fixed wing PC-12



During defense University > Division to specialties

➤ Military Helicopters NH90



During defense University

- Division to specialties,
non military Border Guard
- AS332 „SuperPuma“



During defense University

➤ Division to specialties,
non military Border Guard

➤ AB412



During defense University
> Division to specialties ,
non military Border Guard

➤ SAR and Maritime Patrol
Do228



Military Aviation Technical Training



- Mechanics training part of military service, EFJY, Finnish Airforce Technical School
- Annually up to 70 persons. 345d service
- Many of these have mechanics vocational school background
- 55 to fixed wing/ 15 to helicopters
- Most of them >training for F18
- More than half of service time at operational wings as assistant mechanics

Military Aviation Technical training



- After service possibility to apply position from FAF
- Some of these persons got officers /uni training at Finnish Defense University
- Training continues as a combination of military practices and aircraft/helicopter technical studies
- End result > Military mechanics license

Military Aviation ATC Training



- ATC training as a part of Civilian ATC (Air Traffic Controller) training,
- Military pilot training as base
- Same requirements as for civilian ATC students
- Training in EFHK ; ANS Finland / Avia College. Upper secondary vocational education and training (non academic)
- FAF pays training and salaries

Civilian pilot training/paths



Several options to end up as professional pilot

- „Own“ PPL(Private Pilot License) /CPL (Commercial Pilot License)/ATPL(Air Transport Pilot License)
- FAF (Ilmavoimat)Basic training during military service > „Own“CPL/ATPL
- Resignation/retirement from FAF > fast CPL/ATPL training
- New Ab Initio training programs

Civilian pilot training



- „Own“ PPL /CPL /ATPL
 - PPL several private flight schools/flight clubs
 - CPL /ATPL capability only 5 flight schools
 - At own expense
- FAF Basic training > of which 5-15 students for civilian CPL/ATPL(own expense)
- Resignation/retirement from FAF
 - Depending demand / average few/annually
- New Ab Initio training programs > most of new Airline pilots

Civilian pilot training



Several options to end up as professional pilot (these two are most productive and increasing due Airline Pilot demand)

- **Ab initio for ATPL (Air Transport Pilot licence)**
 - Companies supporting financing
- **New Ab initio to MPL (Multi Crew Licence)**
 - Companies supporting financing or paying the training (training bond)

Finnish Aviation Academy (FINAA) EFPO



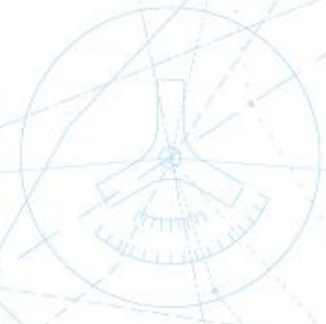
- Formerly Finnair Aviation Academy - started 1985 in the same premises
- Owned by
 - The government of Finland 49.5%
 - Finnair 49.5%
 - The city of Pori 1%



Finnish Aviation Academy (FINAA) EFPO



- Small Regional airport, Old FAF base



Finnish Aviation Academy (FINAA) EFPO



- Main purpose is to train pilots for airlines operating in Finland
- Aircraft - Helicopters
- Flight training products and simulator services
- 35 full time employees - Freelancer instructor hired if needed
- Maintenance of own aircraft - PART-145 and PART-M

Finnish Aviation Academy (FINAA)

Modular training /ab intio



PPL(A)/NF Contracted Theory 200h, Flight training 50h (35h synthetic and 15h aircraft)	MEP Theory 16 h Flight training 50 h (6 h synthetic and 15 h aircraft)	ATPL(A) Theory 500 h CPL(A) Flight training 15 h	EMB-500 IR/Type Theory 62 h Flight training 28 h (18 h synthetic and 10 h aircraft)	MCC Theory 25 h Flight training 20 h
	100h PIC (Pilot in Command) flights			
6 months	24 months			

- Approximately 40 students graduating per year

Finnish Aviation Academy (FINAA)

Modular training /ab intio



- Approximately 40 students graduating per year
- Typical Annual Flight hours:
 - Aircraft 5 000 h
 - Synthetic training 5 000 h
 - Theory 1500 h

Finnish Aviation Academy (FINAA)

Modular training



- Part of PPL(A)/NF(Night Flying) and CPL today Contracted to flight schools
 - Patria with Tecnam P2002 JF (Sierra)



- and Salpauslento with C152/C172



Finnish Aviation Academy (FINAA)

Modular training



- Instrument and CPL (Commercial Pilot License) training
- Multi Engine training
- with FNPT (Flight and Navigation Procedures trainer) II / MCC (multiCrew Co-operation)
- Diamond DA42
Twin Star



Finnish Aviation Academy (FINAA)

Modular training



- Upset Prevention and Recovery Training
- Unusual flight attitudes and recoveries from them
- EXTRA 300
 - Full Aerobatics+/- 8G



Finnish Aviation Academy (FINAA) Modular training

EMBRAER EMB-500, PHENOM 100

- Used for:
- Type rating
- ME/IR
- Jet orientation



(in ab-initio training phase)

Finnish Aviation Academy (FINAA) Helicopter training

- On demand, last course ended 2012
- PPL(H) > CPL(H)
- Robinson R44



- EC-135



Finnish Aviation Academy (FINAA) Simulators



- **DA-42 FNPT II (Flight & Navigation Procedures Trainer)**
 - IFR (Instrument Flight Rules and Multi-engine training) (equals EAVA simu)
- **BE-30 FNPT II /MCC (Multicrew co-operation)**
 - For BE 200/300/350/1900 type training
- **BE-30 Full Flight Simulator**
- **EMB-500 (Phenom100) FDT (FNPT +MCC)**

Finnish Aviation Academy (FINAA) Simulators



EC-135 helicopter synthetic trainer
FNPT III/ FTD/ MCC



Patria Flight training

- Same company as providing Military Basic flight training in EFJY
- Different division
- Situated in EETP



Patria Pilot Training EFTP



- One of the biggest Northern European EASA ATO (European Aviation Safety Agency Approved Training Organization)
- Training partner for FINAA
 - PPL/CPL
 - PPL/CPL/ATPL MCC
- 20 up to 40 students /year
- „glass Cockpit“ training with modern fleet

Patria Pilot Training

Tecnam P2002 JF (Sierra)



Diamond DA40 NG



Patria Pilot Training

Diamond DA42 NG



Synthetic training

- 2 DA42-VI FNPT II
- A320 Airbus fixed base simulator
 - For new MPL training programm with Finnair

Patria Pilot Training EFTP



- New dedicated courses for Norra (Nordic Regional Airline) with Conditional Employment Pledge)
 - Norra is guaranteeing loan for course expences
 - Ab intio to CPL ME/IR (Frozen ATPL)+MCC
 - Norra takes care for type training for ATR72 /E190

Patria Pilot Training EFTP



- New dedicated courses for Finnair with (Conditional Employment Pledge)
 - Student pays back training for Finnair while working
- New MPL (Multi-Crew Pilot License) ab initio program as training partner with Finnair Flight Academy
 - Ends up to direct type training for A320

Salpauslento -SL Flight Training EFHF



- Private owned, founded 1970
- Situates at EFHF-Malmi , subject to relocate A small, round, yellow character with a grumpy or angry expression, wearing blue shoes and having small arms.
- Training partner for FINAA for both levels
 - PPL/CPL
 - PPL/CPL/ATPL MCC
- Up to 20 students/year
- Traditional fleet



Salpauslento -SL Flight Training EFHF

Cessna C152
PPL



Cessna 172
PPL/CPL



Salpauslento -SL Flight Training EFHF



Piper PA28RT
IFR (Instrument
Flight training)



Beechcraft
KingAir C90



Aeropole

EFHF/EFHK /EFJY/EFKU



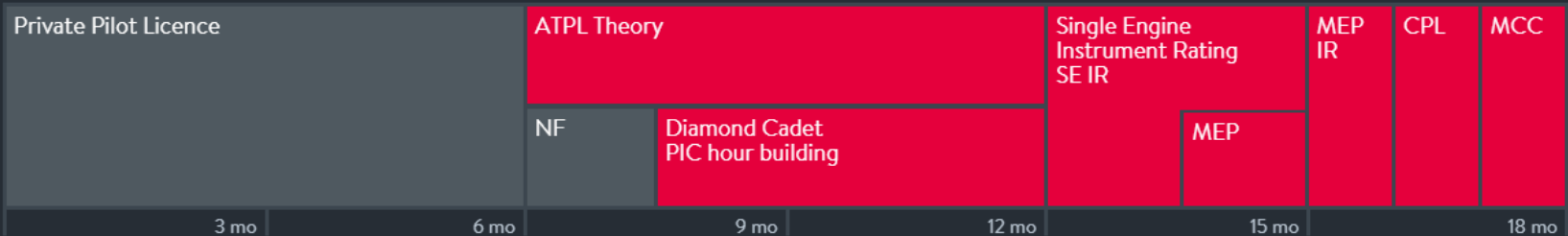
- **Homebase EFHF**
- **Training centers**
 - EFJY,EFKU,EFTA in Finland
 - EKYT -Aalborg and EKKA Midtjyllands (Karup) in Danmark
- **Flight Bases**
 - LFMD Cannes-Mandelieu Airport in France
 - LEST Santiago de Compostela Airport in Spain

Aeropole



- E-learning possibility
- Possibility to fly pilot in Command hours
 - Seaplanes
 - Aerobatics (recovery)
 - CrossCountry in Europe (Riviera and Northwestern Spain)

PROGRAMME STRUCTURE



Aeropole

Diamond DA20

- Basic Flight training



Diamond DA40

- Basic/IFR Flight training



Aeropole

Diamond DA42 TwinStar

- IFR/MEP/MCC
Flight training



DA42 FNPT II simulator

- IFR /MEP/MCC
training



Finnair Flight Academy EFHK



Professional Pilot training

- Type courses in simulators
- Periodical recurrent training/audit

Cabin Crew training

- Basic Cabin Crew courses
- Type related Cabin Crew courses
- Annual recurrent training

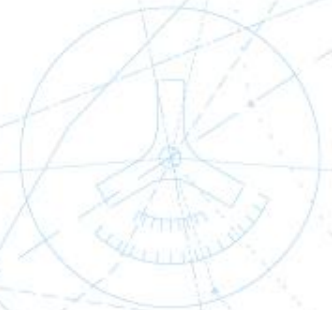


Finnair Flight Academy EFHK



Safety training for all flight Crews

- Door trainers, with slides/sliderafts for:
 - A350
 - A330/340
 - B752
 - A32S
 - E170/190
- Fire and smoke training simulators
- Evacuation Training simulators
- Ditching Pool



Finnair Flight Academy EFHK



Full (motion)Flight Simulator training for
Pilots

A350 FFS

A330/340 FFS

A320 FFS

ERJ-170 FFS

A320 MFTD

ATR72 FFS



Coptersafety



- Founded 2014 by a professional helicopter pilot
- Started with Agusta Westland (Leonardo) AW 139 full flight simulator
- Expanded FAST !!!
- Will be one of the biggest Helicopter training operators in world
- At the end of 2018 6 fullmotion (Level D / Full Flight Simulators) HECO simulators in use
- Most of the instructors from Finnish Border Guard/Military
- OffShore experience
- Helsinki Vantaa optimal position , (same premises as Finnair Flight Training)

Coptersafety

- Type courses for Professional helicopter pilots
- Night Visual
- IFR (Instrument Flight Rules) (incl. PINS)
- NVG (Night Visual Goggles)
- MCC
- Helicopter Instructor training
- HEMS (Helicopter Emergency and Medical Services)
- SAR (Search and Rescue)

Coptersafety



- Aerial work
- External loads (Bambi Bucket / Helisaw)
- Offshore work
- Law Enforcemet
- Corporate flying
- LOFT (Line-Orientated Flight Training)
- All training can be done in customers "own terrain" world database for airports and own team to create visuals

Coptersafety



Efficient and focused

Located next to Helsinki International Airport, at the crossroad between East and West, our 24/7 training centre is easy to access from anywhere in the world.

[View map](#)

[Learn more about Coptersafety](#) →



Contact us

Please don't hesitate to contact us if you have any questions about our training solutions, customized services or facilities.

[Contact](#)

Mission update

Stay tuned for Coptersafety events and subscribe to our Mission Update -newsletter.

Your email address

[Sign up](#)

Coptersafety

- Started with AW139 simulator



- One typical customer; Estonian Border Guard
- Second AW139 simulator will be operational 12/2017



Coptersafety

- Next Full Flight Simulator for Airbus H-145 (Called before EC145 , former BK117(Messerschmid-Bölkow-Blohm/Kawasaki)) in training use 10/2017
- High performance twin-engine heco,
- Well used for HEMS services in difficult Multicrew- IFR conditions



Coptersafety

- Full Flight Simulator for Airbus H-125 (previously named AS350B3 , former Ecuireuil) in training use 08/2018
 - High performance Single engine heco,
 - more than 30 million flight hours on "Ecuireuil family"
 - More than 6500 built
 - In 2005 AS350B3 landed and took-off from Mount Everest 8850m/29035ft , still world record for Helicopters



Coptersafety

- To be followed by Leonardo (AgustaWestland) AW169 in operation 04/2018



- And Leonardo AW189 in 12/2018



Aircraft Maintenance training in Finland



- Training EASA PART 66 ,PART 147
- In 7 locations
- Airport and/or operator related location, FAF, MIL, Finnair, Patria
- Secondary Vocational training , some have merged undergraduate education
- Duration of training varies ,
 - A1 1 ½ y
 - B1/B2 3 y
 - B1 with undergraduate education 4 y

Aircraft Maintenance training Locations

- Mänttä A1&2 1,5 y PATRIA-factory
- Vantaa B1 EFHK -Finnair
- Tampere-Pirkkala B1 EFTP -FAF/Patria
- Tampere-Pirkkala B2 EFTP -FAF/Patria
- Kouvola / Utti B1 EFUT -MIL HECO
- Kuopio B1 EFKU - FAF
- Pori B1 EFPO -FINAA
- Rovaniemi B1 EFRO - FAF

Aircraft Maintenance training Locations

- Roughly 50% are getting job from aviation,
- But after Aircraft Mechanics vocational education, students are sought after for several high level technical jobs, Car mechanics etc.



Aircraft Maintenance training

- Higher education
- Aalto University / Specific studies for aeronautics Graduate Engineer
- Tampere Technical University
- Tampere University of Applied sciences

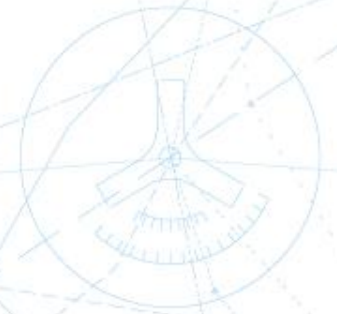


ATC Training in Finland



- All ATC training (Civil/Military) has been done by Finavia (the only service provider for ATS in Finland)
- Owned by state
- 01.04 .2017 ANS Finland was created, responsible for ATS services and ATC training
- Avia College at EFHK Helsinki-Vantaa Airport

ATC Training in Finland



ATC Training in Finland



- Most of instructors are permanent, but using several controllers as ad hoc instructors from "instructor bank"..
- Avia Colleges annual work amount equals 34 persons work year
- y2015 1150 applicants for 8 ATC student positions
- Training will take 1 ½ years , if successful able to apply open position from airports/centers , 3-6 months "on job training"

ATC Training in Finland

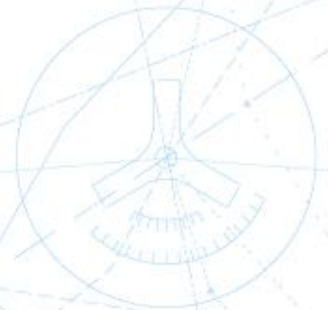


- "On demand "training annually +/-10 students
- Not University level – upper special vocational qualification
- Combined Tower and Radar training (ADIRAD/APSRAD) for basic course
- ACS courses on demand,
- All annual refreshment training , in Simulator and in own airspace and visual surroundings
- Two UFA TWR simulators, 8 UFA RADAR positions and 6 Thales TopSKY radar positions

Cabin Crew training in Finland



- Companies having their own training
- Finnair
- Norra
- Several business jet operators
- Basic training takes approximately 8-10 weeks, depending the aircraft type
- Most of cabin Crew training done in Finnair Flight Academy



Airport Maintenance and Fire and Rescue staff training

- Several vocational schools have tailored courses for students for airport maintenance staff
- Uncommon equipment
- Security/safety aspects

- Winter operations
<https://www.youtube.com/watch?v=7dCsTqEphhg>

Airport Maintenance and Fire and Rescue staff training

- Emergency Training College at Kuopio
- All airport fire and rescue staff
- Aircraft fire simulator – can simulate several different types of accidents
- Periodic rehearsals

