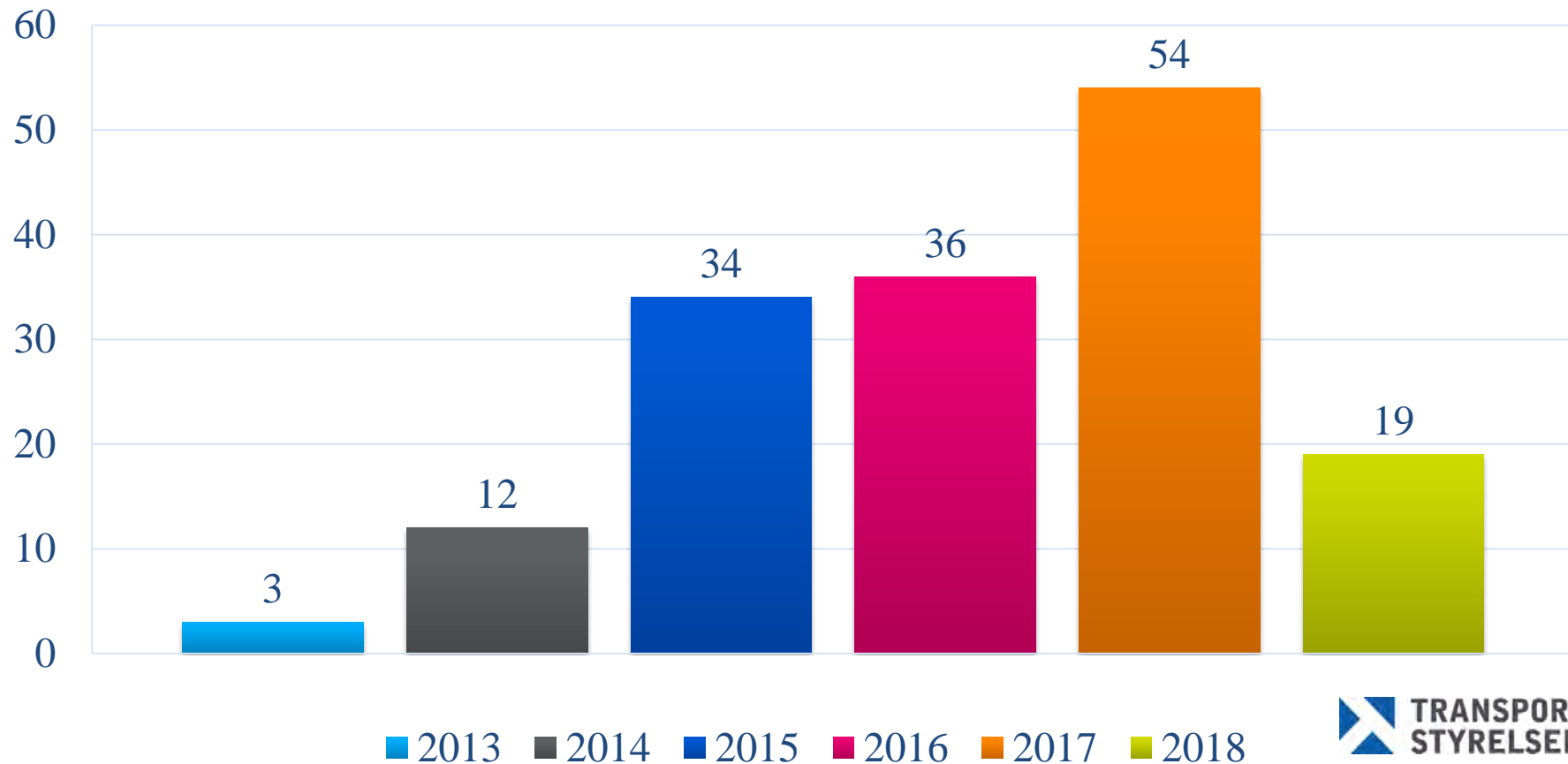


Drönare

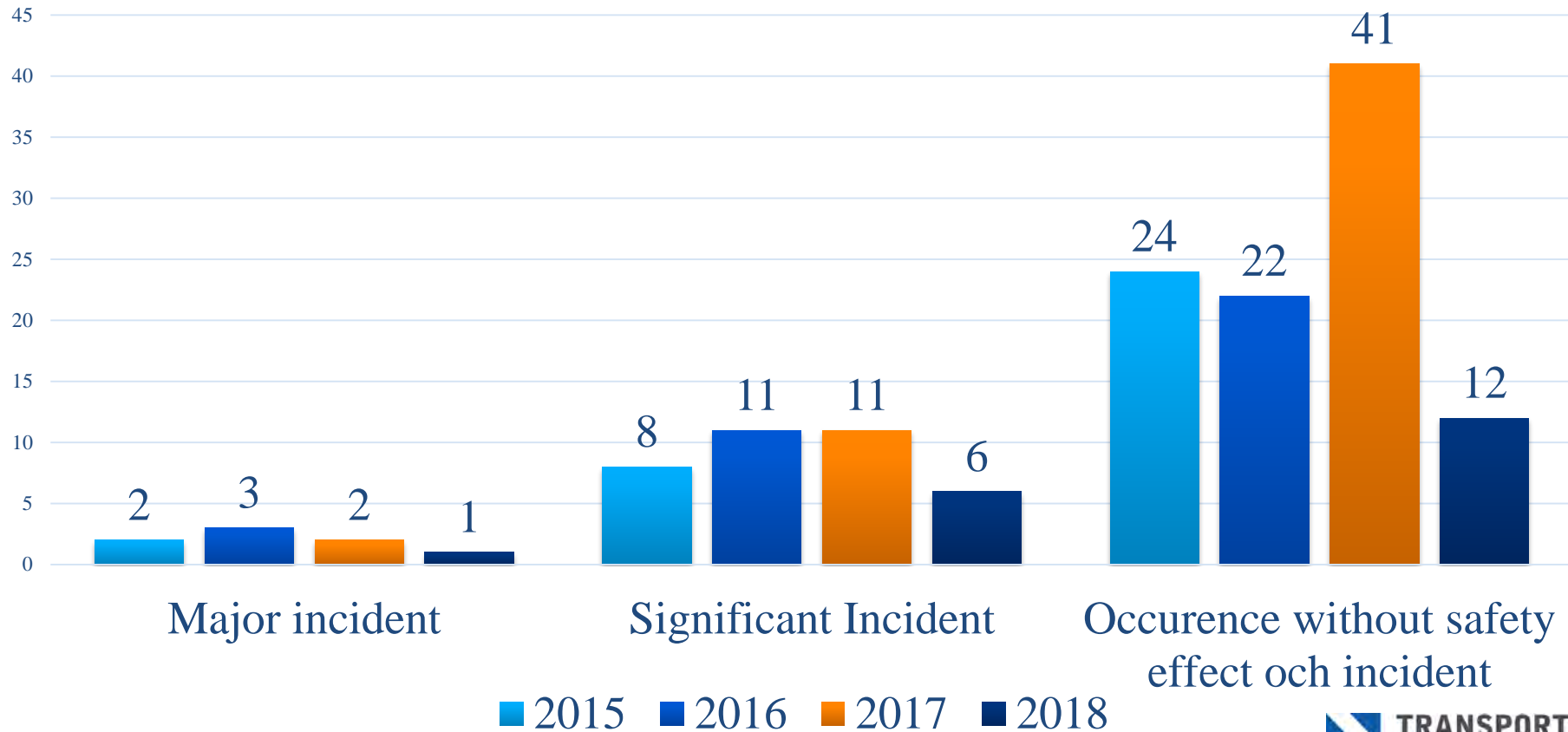
Incidenter och regelutveckling

Rémi Vesvre

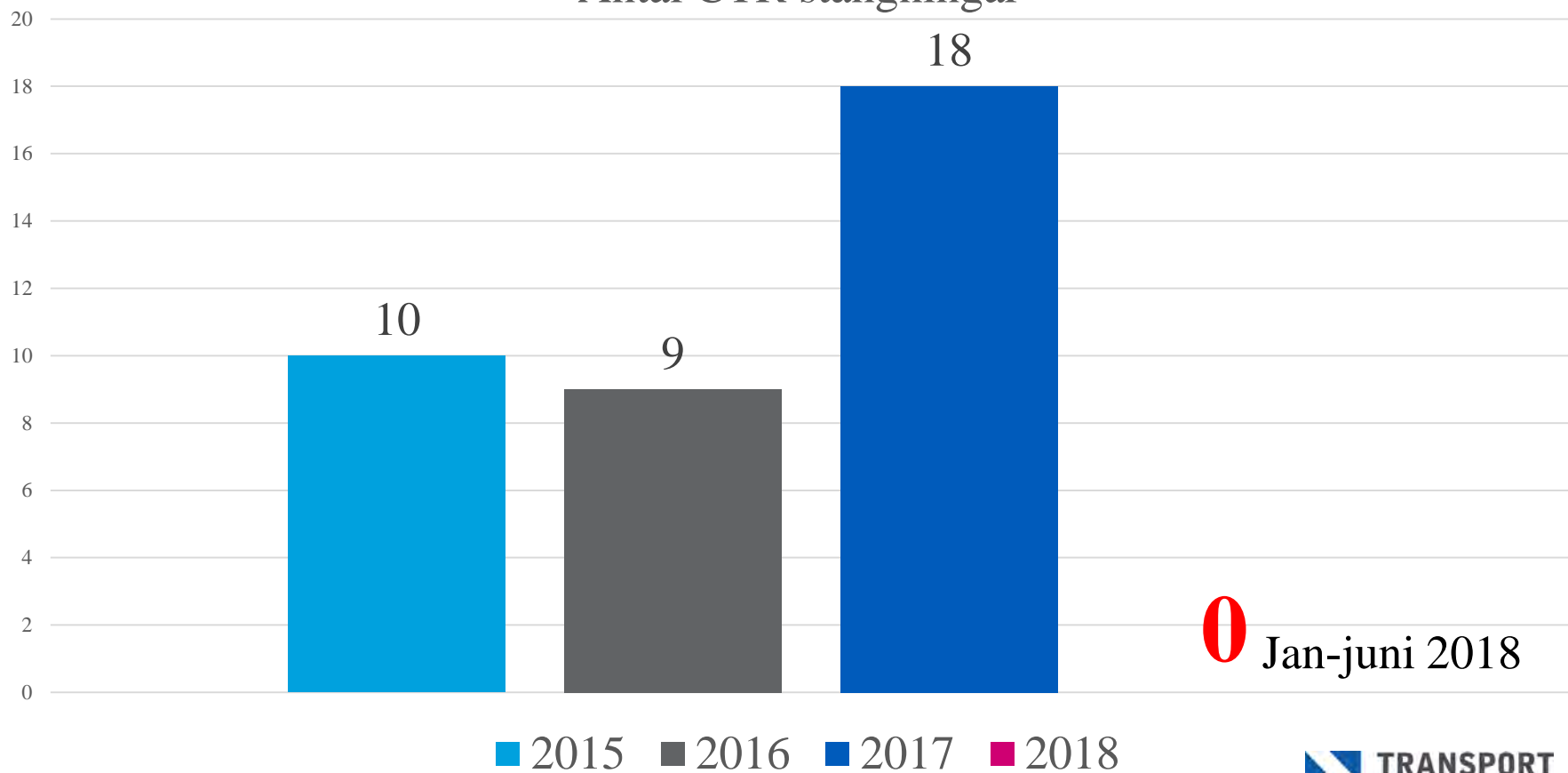
Antal rapporterade händelser med UAS



Klassificering av rapporterade händelser med UAS



Antal CTR stängningar



0 Jan-juni 2018

Gemensamma regler för RPAS i EU?

- EU Grundförordningen 2018/1139 publicerad 22 aug 2018 – Alla UAS regleras av EASA
- EASA, 2st rättsakter publiceras den 10 okt
 - Delegerad akt om tillverkning (CE + C0/1/2/3/4)
 - Implementerings regler (börjar gälla xx månader från xx)

EU vs Sverige

Sverige

				
Kat 1 0-7kg	Kat 2 7-25kg	Kat 3 25-150kg	Kat 5 Special	Kat 4 D&A
VLOS				
TRANSPORT STYRELSEN		TRANSPORT STYRELSEN	TRANSPORT STYRELSEN	TRANSPORT STYRELSEN

EU

Open	TRANSPORT STYRELSEN Specific	TRANSPORT STYRELSEN Certified
<25kg, VLOS, CE märkta	≥25kg, BVLOS	D&A

Operation		Remote pilot competency (age according to MS legislation)	UAS				UAS operator registration
Subcategory	Area of operation (far from aerodromes, maximum height 120 m)		class	MTOM/ Joule (J)	Main technical requirements (CE marking)	Electronic ID/ geo awareness	
A1 Fly over people	You can fly over uninvolved people (not over crowds)	Read consumer info	Privately built	< 250 g	N/a	No	no
			C0		Consumer information, Toy Directive or <19 m/s, no sharp edges, selectable height limit		
A2 Fly close to people	You can fly at a safe distance from uninvolved people	<ul style="list-style-type: none"> Consumer info online training online test theoretical test in a centre recognised by the aviation authority 	C1	< 80 J or <900 g	Consumer information, <19m/s, kinetic energy, mechanical strength, lost-link management, no sharp edges, selectable height limit.	Yes + unique SN for identification	yes
			C2	< 4 kg	Consumer information, mechanical strength, no sharp edges, lost-link management, selectable height limit, frangibility, low-speed mode.		
A3 Fly far from people	You should: <ul style="list-style-type: none"> fly in an area where it is reasonably expected that no uninvolved people will be endangered keep a safety distance from urban areas 	<ul style="list-style-type: none"> Consumer info online training online test 	C3	< 25 kg	Consumer information, lost- link management, selectable height limit, frangibility.	if required by zone of operations	
			C4		Consumer information, no automatic flight		
			Privately built	N/a			

CE märkning

Utbildning & prov

Electronisk ID & Registrering

OPEN



SPECIFIC Category

Operator

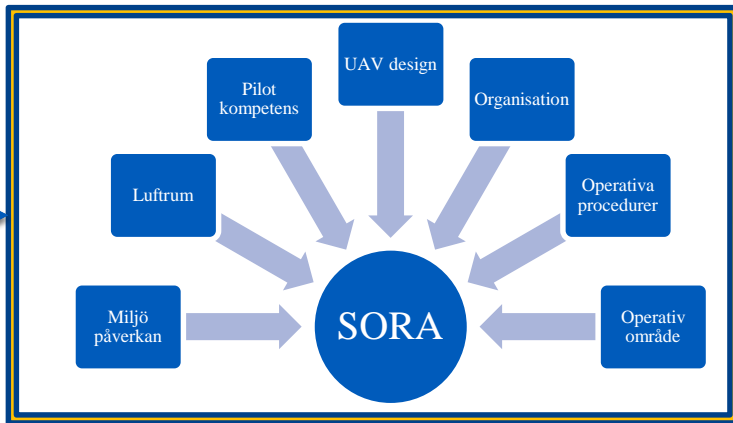


Standard Scenario

Hög risk

Inga

Låg risk



Operation Authorisation

Deklaration



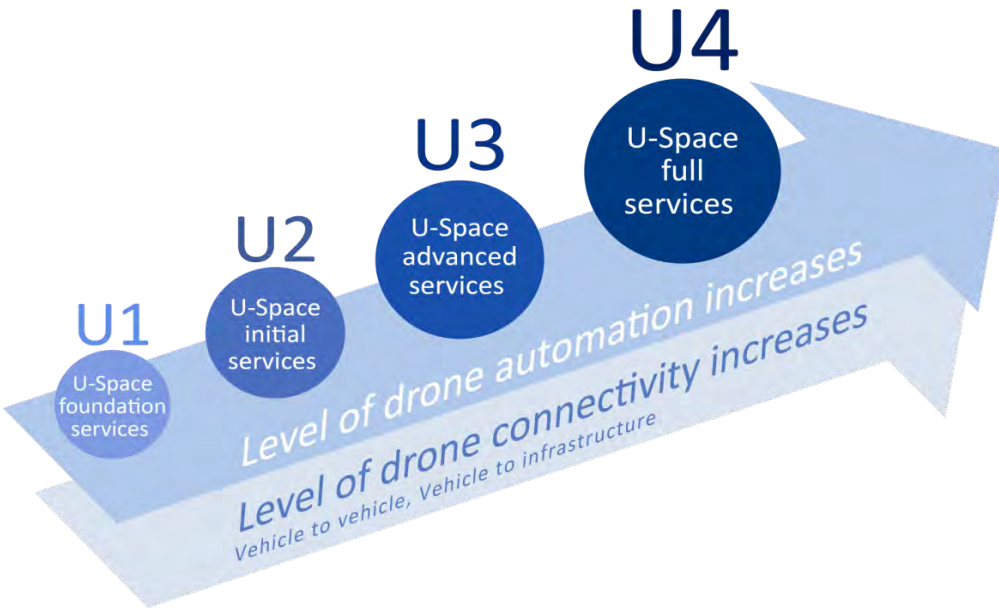
ROC

Remote Operator Certificate

SMS



U-Space



Timescale	UTM services	RPAS integration
2019 plus	U1 UTM Foundation services <ul style="list-style-type: none"> • e registration • e identification • geo-fencing 	RPAS 1 – IFR in classes A-C
2022 plus	U2 UTM Initial services <ul style="list-style-type: none"> • flight planning • flight approval • tracking • airspace dynamic information • procedural interface with ATC 	RPAS 2 – IFR in classes A-G
2027 plus	U3 UTM Advanced/enhanced services <ul style="list-style-type: none"> • capacity management • assistance for conflict detection 	
2030 plus		RPAS 3 – IFR and VFR in classes A-G
2035 plus	U4 UTM Full services <ul style="list-style-type: none"> • additional new services and integrated interfaces with manned aviation 	