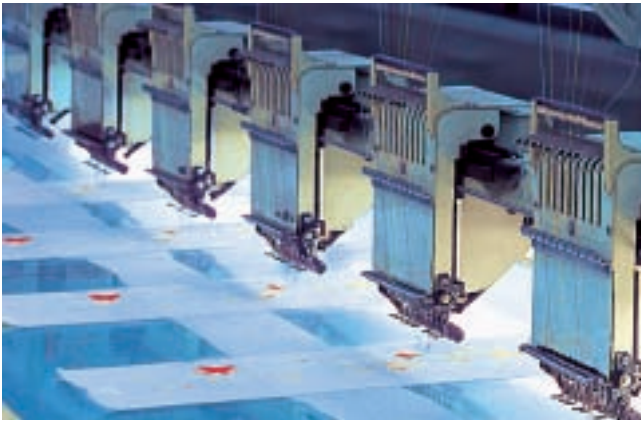


..... **lika**
Position measurement & control



Position measurement & control

Lika Electronic has successfully developed solutions for the automation industry since **1982**, becoming a leading manufacturer of optical encoders, magnetic measurement systems and positioning units in Europe. The export trend allows Lika to sell its products all over the world. At present approximately 50% of the production volume is exported to foreign countries.



Lika's range includes the following product categories:

- ROTAPULS:** incremental encoders;
- ROTACOD:** absolute encoders;
- ROTAMAG:** magnetic encoders;
- LINEPULS:** linear and rotary magnetic measurement system;
- LINECOD:** absolute magnetic measurement system;
- DRIVECOD:** integrated positioning units;
- POSICONTROL:** displays & position controllers;
- ACCESSORIES:** couplings, fixing supports, draw-wire encoders...

Thanks to **flexible production**, Lika can realize customer specific requirements, focusing attention on performance and functionality. This is achieved by performing all the research, design and production inside the company.

During these years Lika has developed strong know-how in:

- Digital and analog electronic design;
- mechanical design;
- optical design;
- software development



Continuous research and innovation are part of daily activities. Lika often works in conjunction with the most prestigious Italian Universities and accredited Institutes, establishing permanent and productive relationships.

In cooperation with the CISAS (Interdepartmental Centre of Space Studies and Activities) of Padua, Lika is involved in the **worldwide space project**, the ROSETTA-ESA mission.

A particular model of incremental encoder has been developed by Lika and employed in the mechanism of the WAC and NAC telescopes forming the OSIRIS payload in the ROSETTA-ESA mission. The ROSETTA-ESA mission, started on March 2nd 2004 with the launch of Ariane 5 and will last twelve years.

During this period, the rocket will travel **450 million kilometers**. ROSETTA has the scope to reveal some secrets of the solar system and to study the origins of earth and the universe.



Typical application fields of Lika products are:

- Woodworking machinery;
- lift and hoists;
- packaging machines;
- machines tools

Lika has been **ISO 9001 certified** since 1997.





ROTAPULS
Optical incremental encoders

LINEPULS
Linear and rotary magnetic measurement system

DRIVECOD
Integrated positioning units

ROTACOD
Optical absolute encoders

LINECOD
Absolute magnetic measurement system

POSICONTROL
Displays & position controllers

ROTAMAG
Magnetic encoders

...about Lika

- 2007** Lika Electronic celebrates its **25th anniversary** of activity.
- 2005** Project in cooperation with Padua University for the development of a measurement system based on laser technology.
- 2004** Rosetta project: the satellite with Lika's encoders has been launched. Compliant with ISO 9001:2000 certification.
- 2003** Lika obtains the **Q PLUS (Q+)** certification.
- 2002** Production in antistatic environment (ESD). Reorganization of NC department and introduction of DRIVECOD & POSICONTROL product range.
- 2001** Foundation of *Lika Germany* branch. LINEPULS range.
- 2000** Start of **ROSETTA project** in cooperation with CISAS.
- 1999** Lika Electronic moves to Carrè (VI), in the new and expanded head-quarters.
- 1998** Introduction of the numerical control department.

- 1997** Lika obtains the **ISO 9001:1994** certification. First single-turn absolute encoder with 16 bit resolution developed for aerostatic probes of Florence University.
- 1996** ROTACAM ASR58: absolute encoder with integrated cam programmer.
- 1993** The range of encoders with 58 mm diameter is completed.
- 1991** Foundation of Lika Trading.
- 1987** Introduction of EP cam programmer. Lika manufactures the **smallest absolute encoder** in Europe, with a diameter of 50 mm.
- 1986** Production of absolute encoders with integrated display and incremental encoders for Italian market.



- 1985** Lika starts the production of absolute encoders for the German market.
- 1982** Lika Electronic founded in Schio (VI), Italy.





25 years young

ROTAPULS Incremental encoders

lika.....





Series	I28	I40 • I41	I58S • I58 • I58 V	IT65 • I65
Features			standard size, sin/cos	standard size
Housing ø (mm)	28	40	58	65
Shaft ø (mm)	4, 5	4, 6, 6.35, 8	6, 8, 9.52, 10, 12	6, 8, 9.52, 10, 12
Connections		•	•	•
		•	•	•
Resolution (PPR)	1024 max.	3600 max.	10000 max.	10000 max.
Output frequency (kHz)	100 max.	100 max.	300 max.	300 max.
Output circuits	Push-Pull, Line Driver, Universal circuit	NPN, Push-Pull, Line Driver, Universal circuit	NPN, Push-Pull, Line Driver, Universal circuit, 1Vpp	NPN, Push-Pull, Line Driver, Universal circuit
Operating temperature	-20°C +70°C (-4°F +158°F)	-20°C +70°C (-4°F +158°F)	-40°C +100°C max. (-40°F +212°F max.)	-40°C +100°C max. (-40°F +212°F max.)
Protection	IP54	IP54	IP65 max.	IP66 max.

ROTAPULS Incremental encoders

lika.....





Series	XC77	I105	ICS	CK46
Features	ATEX II 2 G/D EEx d IIC T6	high resolution	spring loaded shaft	
Housing ø (mm)	77	105	172 x 80 x 53	46
Shaft ø (mm)	14	10	12	6, 6.35
Connections		•	•	•
		•	•	•
Resolution (PPR)	10000 max.	16384, 18000	1068 max.	3600 max.
Output frequency (kHz)	300 max.	300 max.	60	100
Output circuits	NPN, Push-Pull, Line Driver, Universal circuit	Push-Pull, Line Driver, Universal circuit	NPN, Push-Pull, Line Driver, Universal circuit	NPN, Push-Pull, Line Driver, Universal circuit
Operating temperature	-20°C +40°C (-4°F +104°F)	-20°C +70°C (-4°F +158°F)	-20°C +70°C (-4°F +158°F)	-40°C +100°C max. (-40°F +212°F max.)
Protection	IP66	IP65 max.	IP65 max.	IP65 max.

ROTAPULS Incremental encoders

lika.....





Series	C50	CB50	CB59	C60 • C59 • C58
Features	for motor applications	for servo motors	for servo motors	
Housing \varnothing (mm)	50	50	58	58
Shaft \varnothing (mm)	6, 6.35, 8, 9.52, 10	6, 6.35, 8, 9.52, 10	12.7, 15	14, 15
Connections	 •	•	•	•
				
Resolution (PPR)	2500 max.	2500/8 poles max.	2048 / 1 sin/cos	5000 max.
Output frequency (kHz)	100	200	200	60
Output circuits	NPN, Push-Pull, Line Driver, Universal circuit	Push-Pull, Line Driver, U, V, W signals	1 Vpp + Z track	Push-Pull, Line Driver, Universal circuit
Operating temperature	-40°C +100°C max. (-40°F +212°F max.)	-20°C +100°C (-4°F +212°F)	-20°C +100°C (-4°F +212°F)	-40°C +100°C max. (-40°F +212°F max.)
Protection	IP65 max.	IP20	IP40	IP65 max.

ROTAPULS Incremental encoders

lika.....





Series	C58A • C58R	CK60 • CK59 • CK58	CK61	C80 • C81
Features		standard size heavy duty	motor feedback	for lift motors
Housing \varnothing (mm)	58	58	58	80
Shaft \varnothing (mm)	14, 15	14, 15	10, 12	16 ÷ 44
Connections	 •	•	•	•
		•	•	
Resolution (PPR)	5000 max.	10000 max.	5000 max.	5000 max.
Output frequency (kHz)	300 max.	300 max.	300 max.	200 max.
Output circuits	Push-Pull, Line Driver, Universal circuit	NPN, Push-Pull, Line Driver, Universal circuit, 1Vpp	Push-Pull, Line Driver, Universal circuit	Push-Pull, Line Driver, Universal circuit, 1Vpp
Operating temperature	-40°C +100°C max. (-40°F +212°F max.)	-40°C +100°C max. (-40°F +212°F max.)	-40°C +100°C max. (-40°F +212°F max.)	-40°C +100°C max. (-40°F +212°F max.)
Protection	IP65 max.	IP65 max.	IP65 max.	IP65 max.

ROTACOD Absolute encoders

lika.....





Series	ASC58 • AS58 • AS58S	HSx58x	AST6	XAC77
Features	standard size	motor feedback	US size	ATEX II 2 G/D EEx d IIC T6
Housing ø (mm)	58	58	65	77
Shaft ø (mm)	6, 8, 9.52, 10, 12, 14, 15	6, 8, 9.52, 10, 12, 14, 15	6, 8, 9.52, 10, 12	14
Connections	 •	•	•	•
	 •	•	•	
Resolution	16 bit max.	16 bit + 2048 sin/cos	16 bit max.	16 x 14 bit max.
Output circuits	NPN, Push-Pull, SSI	SSI + 1 Vpp	NPN, Push-Pull, SSI	NPN, Push-Pull, SSI
Operating temperature	-40°C +100°C max. (-40°F +212°F max.)	-25°C +85°C (-13°F +185°F)	-40°C +100°C max. (-40°F +212°F max.)	-20°C +40°C (-4°F +104°F)
Protection	IP65	IP65	IP66 max.	IP66

ROTACOD Absolute encoders

lika.....





Series	ASR58	AS58 A • AM58 A	AS58 ISI • AM58 ISI	AS5 • AM5
Features	integrated cam programmer	analogue output	incremental serial interface	
Housing ø (mm)	58	58	58	51
Shaft ø (mm)	6, 8, 9.52, 10, 12	6, 8, 10, 12	6, 8, 9.52, 10, 12	6, 8, 10, 12
Connections	 •			•
	 •	•	•	
Resolution	3600/0,1°	16 bit max.	2048 PPR, 2048 PPR x 4096 rev	12 bit, 12 x 8 bit max.
Output circuits	16 x on/off, 100mA	0-5V, 0-10V, 4-20mA	ISI (Incremental serial interface)	NPN, Push-Pull
Operating temperature	-20°C +70°C (-4°F +158°F)	-20°C +70°C (-4°F +158°F)	-20°C +70°C (-4°F +158°F)	-20°C +70°C (-4°F +158°F)
Protection	IP65	IP65	IP65	IP65

ROTACOD Absolute encoders

lika.....








Series	AMC58 • AM58 • AM58S	HMx58x	AMx58x P	AM9 • AMC9
Features	standard size	for motor feedback	programmable	low profile
Housing \varnothing (mm)	58	58	58	88
Shaft \varnothing (mm)	6, 8, 9.52, 10, 12, 14, 15	6, 8, 9.52, 10, 12, 14, 15	6, 8, 9.52, 10, 12	10, 15
Connections	 •	•	•	•
	 •	•	•	•
Resolution	16 x 14 bit max.	16 x 14 bit + 2048 sin/cos	13 x 12 bit max.	13 x 12 bit max.
Output circuits	NPN, Push-Pull, SSI	SSI + 1 Vpp	NPN, Push-Pull, SSI	SSI
Operating temperature	-40°C +100°C max. (-40°F +212°F max.)	-25°C +85°C (-13°F +185°F)	-20°C +70°C (-4°F +158°F)	-40°C +100°C max. (-40°F +212°F max.)
Protection	IP65	IP65	IP65	IP65

ROTACOD Absolute encoders

lika.....





Series	Ax58x PB • Hx58x PB	HSx58x I7	Ax58x FD • Hx58x FD	Ax58x CB • Hx58x CB
Features				 
Housing \varnothing (mm)	58	58	58	58
Shaft \varnothing (mm)	6, 8, 9.52, 10, 12, 14, 15	6, 8, 9.52, 10, 12, 14, 15	6, 8, 9.52, 10, 12, 14, 15	6, 8, 9.52, 10, 12, 14, 15
Connections	Connection cap with PG or connectors	•	Connection cap with PG or connectors	Cable or connection cap
		•		
Resolution	16 bit, 16 x 14 bit max.	18 bit, 18 x 14 bit max.	16 bit, 16 x 14 bit max.	16 bit, 16 x 14 bit max.
Output circuits	ProfiBus DP	BiSS + 1Vpp	DeviceNet	CANopen • CANlift
Operating temperature	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)
Protection	IP65	IP65	IP65	IP65

ROTAMAG Magnetic encoders

lika.....





Series	MI36 • MC36	MI58S • MI58	MC60 • MC59 • MC58
Features	incremental magnetic	incremental magnetic	incremental magnetic
Housing ø (mm)	36	58	58
Shaft ø (mm)	6	6, 8, 9.52, 10, 12	14, 15
Connections		•	•
		-	•
Resolution (PPR)	2048 max.	10000 max.	10000 max.
Output circuits	NPN, Push-Pull, Line Driver	Push-Pull, Line Driver, Universal circuit	Push-Pull, Line Driver, Universal circuit
Operating temperature	-20°C +85°C (-4°F +185°F)	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)
Protection	IP67 max.	IP67 max.	IP67 max.

ROTAMAG Magnetic encoders

lika.....



Series	MS36 • MSC36	MM36 • MMC36	MMC58 • MM58 • MM58S
Features	absolute magnetic	absolute magnetic	absolute magnetic
Housing ø (mm)	36	36	58
Shaft ø (mm)	6	6	6, 8, 9.52, 10, 12, 14, 15
Connections		•	•
		-	•
Resolution (PPR)	12 bit	12 bit max. x 15 bit max.	12 bit x 16 bit max.
Output circuits	SSI	SSI	SSI
Operating temperature	-20°C +85°C (-4°F +185°F)	-20°C +85°C (-4°F +185°F)	-25°C +85°C (-13°F +185°F)
Protection	IP67 max.	IP67 max.	IP67 max.

SpinCODER Spindle position encoder

lika.....



Series	SC1
Features	Absolute spindle encoder
Housing (mm)	48 x 67 x 42
Shaft ø (mm)	20
Connections	•
	•
Resolution	500 cpr x 256 rev.
Interface	RS485
Display	-
Protection	IP54

Accessories

lika.....





Series	SF • SAK • SBK	PAN • PGF	LKM-xxx	RM-xxxx
Features	Draw wire support <ul style="list-style-type: none"> • With encoder or potentiometer • Measuring length 5000 mm or 6800 mm (series SF) • Measuring length 1000 mm or 1500 mm (series SFME) • Measuring length up to 50000 mm (series SAK, SBK) 	Couplings <ul style="list-style-type: none"> • Flexible or rigid • Zero backlash • Electrical insulation • High torque • Steel versions • Keyway 	Brackets, flanges <ul style="list-style-type: none"> • Mounting brackets • Mounting bells • Adapting flanges • Fixing accessories • Connectors • Connection cables 	Metric wheels <ul style="list-style-type: none"> • 200 or 500 mm circumference • Rubber or metal surface • Integrated encoders (IR65) available • Racks & pinions available

LINEPULS Incremental sensors

lika.....





Series	MT • MTS	MRI	SMx-C • SMx-R	EBOX
Features	magnetic tape	magnetic rings	passive sensors	electronic converter
Dimensions (mm)	10 mm/5 mm x 100 m max.	∅ up to 1000 mm	25 x 15 x 8,5 / M10 x 30	90 x 20 x 55
Connections		-	-	-
		-	•	•
Resolution	-	-	depending on EBOX or display	10 µm max. (programmable)
Output circuits	-	-		Push-Pull, Line Driver
Operating temperature	-40°C +120°C (-40°F +248°F)	-40°C +120°C max. (-40°F +248°F max.)	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)
Protection	IP67	IP67	IP67	IP40

LINEPULS Incremental sensors

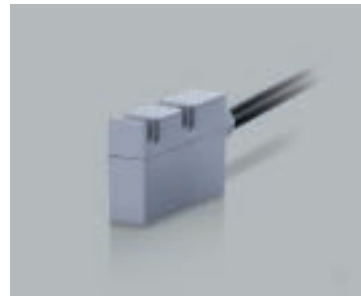
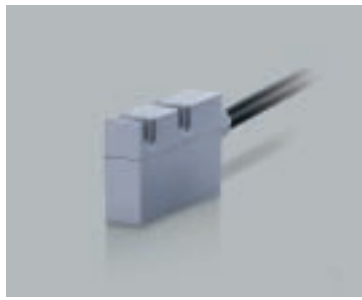
lika.....



Series	SMBx	SME1 • SME2 • SME5	SHD1 • SHD2 • SHD5	SMS
Features	separate converter	high resolution	for linear motors	sin/cos
Dimensions (mm)	25 x 15 x 8,5 49 x 30 x 10	40 x 25 x 10	40 x 25 x 10	40 x 25 x 10
Connections		•	•	•
				
Resolution	5 µm max.	0,5 µm max.	1 µm max.	1 mm pole pitch
Travel speed	16 m/s max.	16 m/s max.	16 m/s max.	16 m/s max.
Output circuits	Push-Pull, Line Driver	Push-Pull, Line Driver	Push-Pull, Line Driver	1 Vpp
Operating temperature	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)
Protection	IP67	IP67	IP67	IP67

LINEPULS Incremental sensors

lika.....



Series	SMK	SML • SMH	SMXx
Features	standard sensor	standard sensor	bidirectional sensor
Dimensions (mm)	40 x 25 x 10	40 x 25 x 10	M10 x 30
Connections	•	•	•
Resolution	10 µm max.	100 µm max.	5 mm (1.25), 2 mm (0.5)
Travel speed	2,5 m/s max.	10 m/s max.	10 m/s max.
Output circuits	Push-Pull, Line Driver	Push-Pull, Line Driver	Universal circuit
Operating temperature	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)	-10°C +70°C (-14°F +158°F)
Protection	IP67	IP67	IP67

LINECOD Absolute sensors

lika.....



Series	MTA1 • MTAS	SMA1	SMA5	SMAL
Features	absolute coded tape	integrated absolute sensor	integrated absolute sensor	absolute sensor for elevators
Dimensions (mm)	20 mm x 5.1 m max.	85 x 21 x 20	65 x 20 x 20	180 x 60 x 44
Connections	-	•	•	•
Resolution	-	5 µm max.	5 µm max.	1 mm
Travel speed	-	5 m/s max.	5 m/s max.	5 m/s max.
Output circuits	-	BiSS + sin/cos	SSI	SSI, RS485, Profibus CANopen, CANlift
Operating temperature	-40°C +120°C (-40°F +248°F)	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)
Protection	IP67	IP67	IP67	IP54

LINEPULS Displays

lika.....



Series	LD120	LD130	LD112
Features	LED display	3 axis LED display	small battery display
Display	LED 5 digit	3 x LED 5 digit	LCD 6 digit
Display mode	linear, angular, mm/inch	linear, mm/inch	linear, angular, mm/inch
Dimensions (mm)	72 x 36 x 62	97 x 73 x 83	72 x 48 x 31
Input	magnetic sensor	magnetic sensor	magnetic sensor
Travel speed	< 5 m/s	< 5 m/s	< 5 m/s
Power supply	+10 +30 Vdc	+10 +30 Vdc	battery
Interface	RS485	RS485, RS232	-
Output	-	-	-

LINEPULS Displays

lika.....



Series	LD140 • LD142	LD111	LD141
Features	battery display	small OEM battery display	OEM battery display
Display	LCD 6 digit	LCD 6 digit	LCD 6 digit
Display mode	linear, angular, mm/inch	linear, angular, mm/inch	linear, angular, mm/inch
Dimensions (mm)	96 x 72 x 47	61 x 39 x 23	87 x 60,5 x 47
Input	magnetic sensor	magnetic sensor	magnetic sensor
Travel speed	< 5 m/s	< 5 m/s	< 5 m/s
Power supply	battery	battery	battery
Interface	RS232	-	RS232
Output	-	-	-

DRIVECOD Positioning units

lika.....



Series	RD1	RD11	RD12
Features	positioning unit	positioning unit	with integrated brake
Dimensions (mm)	58 x 124 x 122	58 x 124 x 122	58 x 124 x 150
Shaft \varnothing (mm)	14	15	14
Shaft rotational speed	240 rpm max.	240 rpm max.	240 rpm max.
Nominal torque	5 Nm max.	5 Nm max.	5 Nm max.
Max. torque	10 Nm max.	10 Nm max.	10 Nm max.
Power supply	24 Vdc	24 Vdc	24 Vdc
Interface	RS485, CANopen, Profibus	RS485, CANopen, Profibus	RS485, CANopen, Profibus
Encoder	absolute	absolute	absolute

DRIVECOD Positioning units

lika.....



Series	RD2	RD22	RD3
Features	positioning unit	with integrated brake	positioning unit
Dimensions (mm)	56 x 56 x 104	56 x 56 x 140	56 x 75 x 158
Shaft \varnothing (mm)	14	14	14
Shaft rotational speed	110 rpm max.	110 rpm max.	240 rpm max.
Nominal torque	1,6 Nm max.	1,6 Nm max.	5 Nm max.
Max. torque	3 Nm max.	3 Nm max.	10 Nm max.
Power supply	24 Vdc	24 Vdc	24 Vdc
Interface	RS485, CANopen, Profibus	RS485, CANopen, Profibus	RS485, CANopen, Profibus
Encoder	absolute	absolute	absolute

POSICONTROL Displays & Position controllers

lika.....



Series	PS611	TE601	PV1	LD200
Features	position controller	RDxx CANbus terminal	4 axis DRO	universal display
Display	LCD	LCD	LCD	LED 8 digit
Display mode	position, parameters	RDxx status, parameters	linear, mm/inch	linear, angular, mm/inch
Dimensions (mm)	120 x 154 x 34	120 x 154 x 34	280 x 110 x 35	96 x 48 x 49
Input	2 x AB	CAN	4 x AB0	AB0, 1Vpp, SSI, magnetic sensor
Counting frequency	20 kHz max.	-	2 MHz max.	500 kHz max.
Power supply	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Interface	RS232, RS485, CAN	RS232, CAN	RS232	RS232, CAN
Output	8 x 24 V @ 500 mA	-	4 x ± 10 V 12 x 24 V @ 500 mA	3 x 24 V @ 50 mA

POSICONTROL Displays & Position controllers

lika.....



Series	MC150	MC111	MC221
Features	position display	position display	2 axis display
Display	LED 6 digit	LED 6 digit	2 x LED 6 digit
Display mode	linear, angular	linear, angular	linear, angular
Dimensions (mm)	96 x 72 x 71	96 x 72 x 60	96 x 96 x 72
Input	AB0	AB, Analogue	2 x AB
Counting frequency	500 kHz max.	25 kHz max.	90 kHz max.
Power supply	24 Vdc/Vac 115 Vac, 230 Vac	24 Vdc	24 Vdc/Vac 115 Vac, 230 Vac
Interface	RS232	-	RS232
Output	2 x 24 V @ 600 mA	2 x 24 V @ 600 mA	2 x 24 V @ 600 mA

Lika Electronic is present
in the following countries:



Argentina	Malaysia
Australia	Mexico
Austria	Netherlands
Belarus	New Zealand
Belgium	Norway
Brazil	Poland
Canada	Portugal
China	Russia
Czech Republic	Singapore
Denmark	Slovakia
Dubai	South Africa
Estonia	South Korea
Finland	Spain
France	Sweden
Germany	Switzerland
Greece	Taiwan
Hong-Kong	Thailand
India	Turkey
Iran	Ukraine
Israel	United Kingdom
Italy	U.S.A.
Latvia	Uruguay
Lithuania	Vietnam

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