

"ADVENTURES" PROJECT, 2001-2004
(ADVANCED TRANSPORTS FOR UNIVERSITY EDUCATION IN SARAJEVO)
European Commission, CD_JEP-15045-2000

- SOFTWARE PACKAGE AND HANDBOOK -
CDP - CABLEWAY DESIGN PACKAGE

Authors

Vittoriano VITALI, eng. (I)

with support by Bruno DALLA CHIARA, Politecnico di Torino (I)



Politecnico di Torino
Department DITIC -Transport
Italy



University of Sarajevo
Faculty of Transport, Traffic and Communications
Bosnia-Herzegovina



University of Southampton
Transportation Research Group
United Kingdom

Topics

- Design and verification of any kind of calculation related to cableway transport systems, either equipped with detachable or with fixed grips, with continuous or pulse movement
- Ski-lifts, chairlifts, gondola ropeways, passenger ropeways, and telpherages (freight or material ropeways).

Software main page

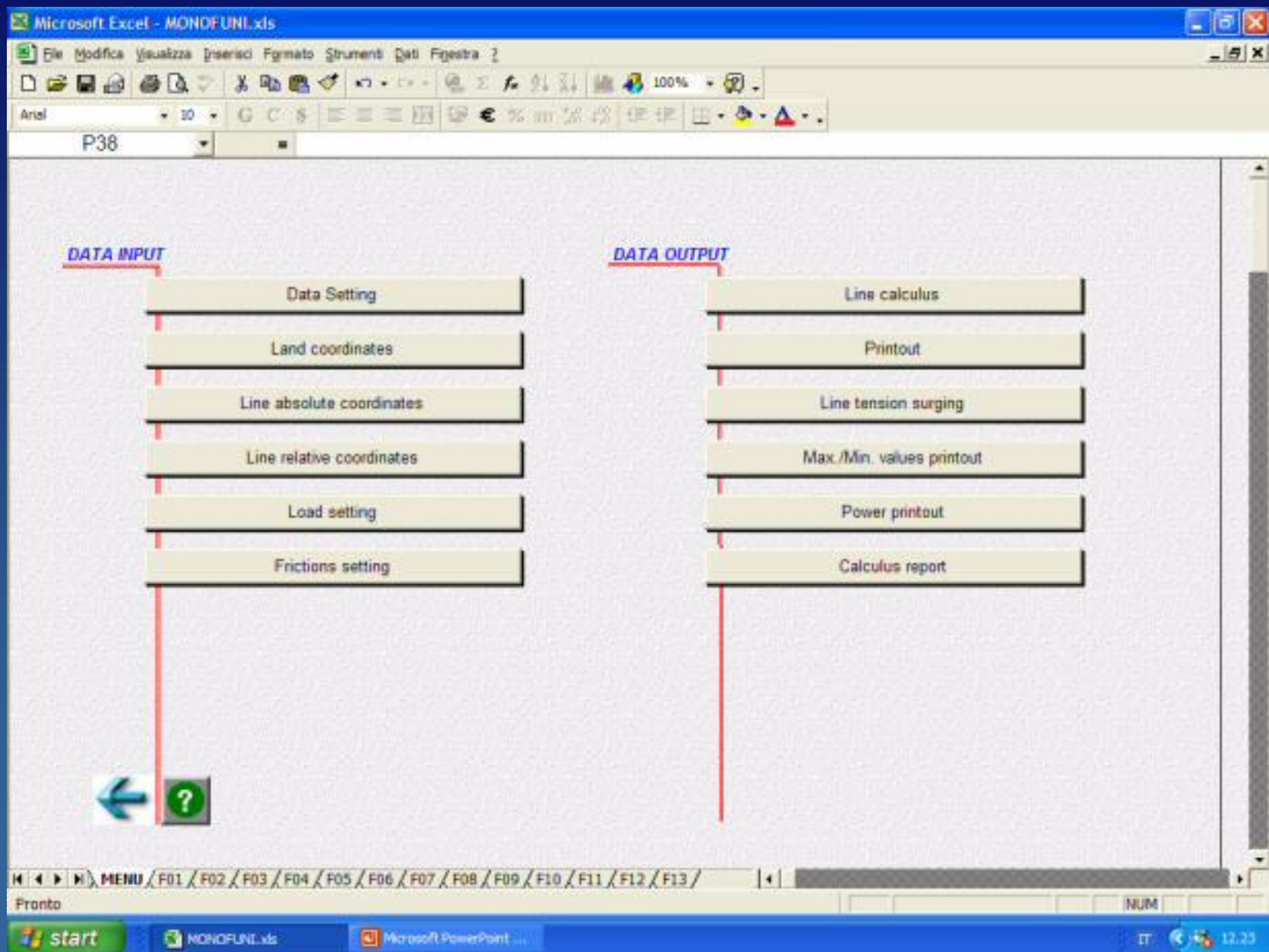


The cableway design sw package specifically created for the Tempus project

1. CD-Rom
2. Handbook

The handbook provides guidelines for the use of the software, through a frequent report of the screen images which can be seen on the computer while using the software package. In compliance with the endeavours of the European project within which it has been developed, the handbook is intended primarily for educational support and, in general, as an aid for the different phases of design, calculation and verification of cableways systems.

Input/Output main page



Rope database

Microsoft Excel - Arc_funi.xls

File Modifica Visualizza Inserisci Formato Strumenti Dati Finestra 2

Anal 10 G C \$ 100% 100%

WS_186 WARRINGTON-SEALE 186 WIRES

DATABASE OF ROPES (from catalogue Redaelli)

ERCOLE	SEALE 114 WIRES	SIGNAL CABLE UNI 8528
LOCKED Z-SHAPED WIRES(h=4.0mm)	FILLER 150 WIRES	TENSION ROPE UNI 7313
LOCKED Z-SHAPED WIRES(h=3.5mm)	WARRINGTON-SEALE 186 WIRES	
LOCKED Z-SHAPED WIRES(h=3.0mm)	WARRINGTON-SEALE 216 WIRES	
	STANDARD 7169 (skiff)	

Instructions for rope selection:

1) click on the rope push button

2) Select the rope by clicking on the cell defined (by the rated diameter row) and the required total load column)

3) Confirm with the designed pushbutton

Confirm data rope Cancel Selection and Close

Diameter of the rope mm	Section mm ²	Weight kg/m	φ rope mm	Breaking load GRADE			Minimum failure force GRADE		
				1770 kN	1960 kN	2160 kN	1770 kN	1960 kN	2160 kN
20	163.4	1.48	1.28	289	320	353	243	269	296
21	180.1	1.63	1.34	319	353	389	268	297	327
22	197.7	1.79	1.41	350	387	427	294	325	359
23	216.0	1.96	1.47	382	423	467	321	356	392
24	235.2	2.13	1.54	416	461	508	350	387	427
25	255.3	2.31	1.60	452	500	551	380	420	463
26	276.1	2.50	1.66	489	541	596	410	455	501
27	297.7	2.70	1.73	527	584	643	443	490	540
28	320.2	2.90	1.79	567	628	692	476	527	581
29	343.5	3.11	1.86	608	673	742	511	565	623
30	367.6	3.33	1.92	651	720	794	546	605	667
31	392.5	3.56	1.98	695	769	848	584	646	712

WARRINGTON-SEALE 186 WIRES

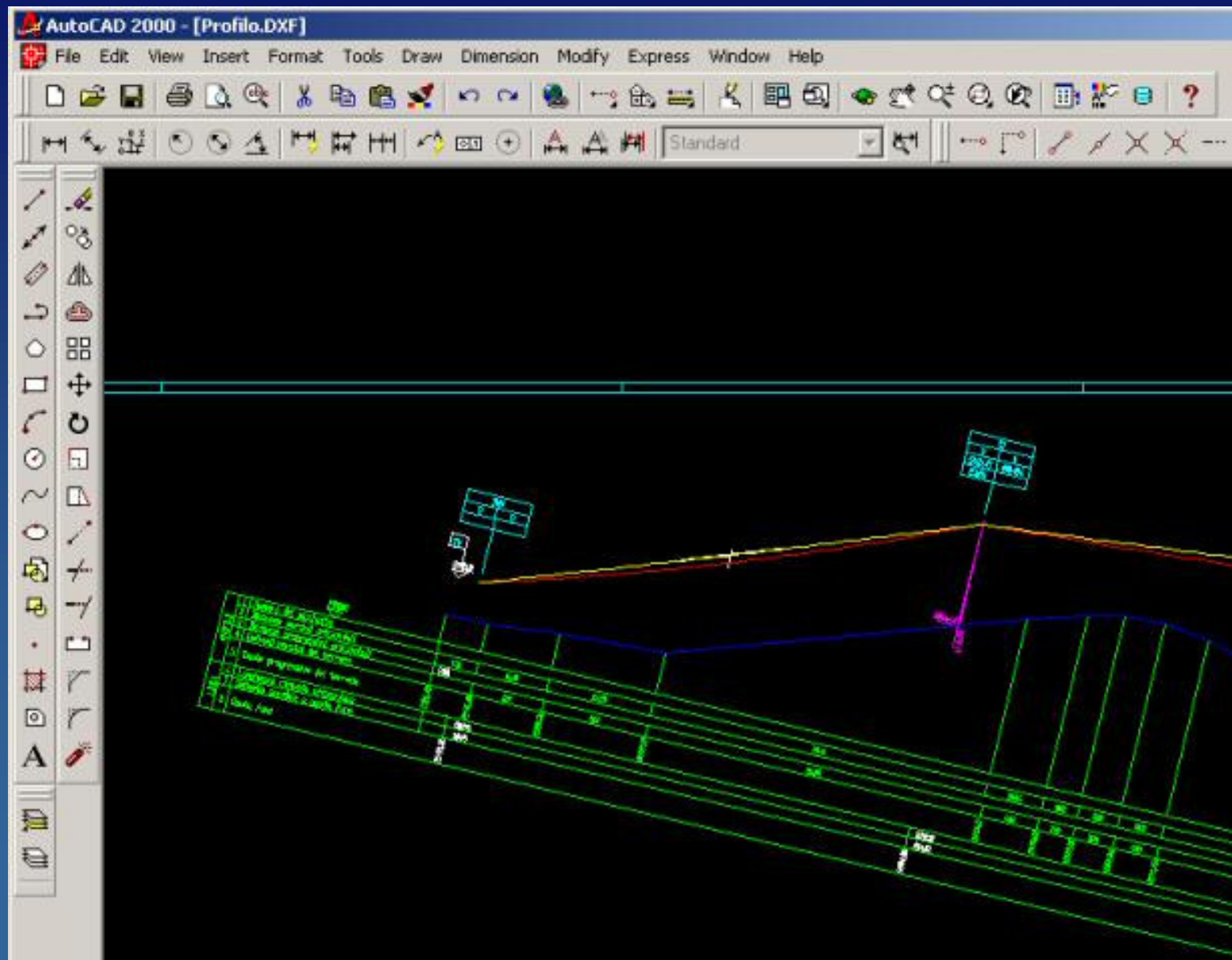
Diametro della fune mm	Sezione mm ²	Massa kg/m	φ filo mm	Carico Somma GRADE			Forza di rottura minima GRADE		
				1770 kN	1960 kN	2160 kN	1770 kN	1960 kN	2160 kN
20	163.4	1.48	1.28	289	320	353	243	269	296
21	180.1	1.63	1.34	319	353	389	268	297	327
22	197.7	1.79	1.41	350	387	427	294	325	359
23	216.0	1.96	1.47	382	423	467	321	356	392
24	235.2	2.13	1.54	416	461	508	350	387	427
25	255.3	2.31	1.60	452	500	551	380	420	463
26	276.1	2.50	1.66	489	541	596	410	455	501
27	297.7	2.70	1.73	527	584	643	443	490	540
28	320.2	2.90	1.79	567	628	692	476	527	581
29	343.5	3.11	1.86	608	673	742	511	565	623
30	367.6	3.33	1.92	651	720	794	546	605	667
31	392.5	3.56	1.98	695	769	848	584	646	712

H < > > > \ Funi / Funi_uk / Funi_it /

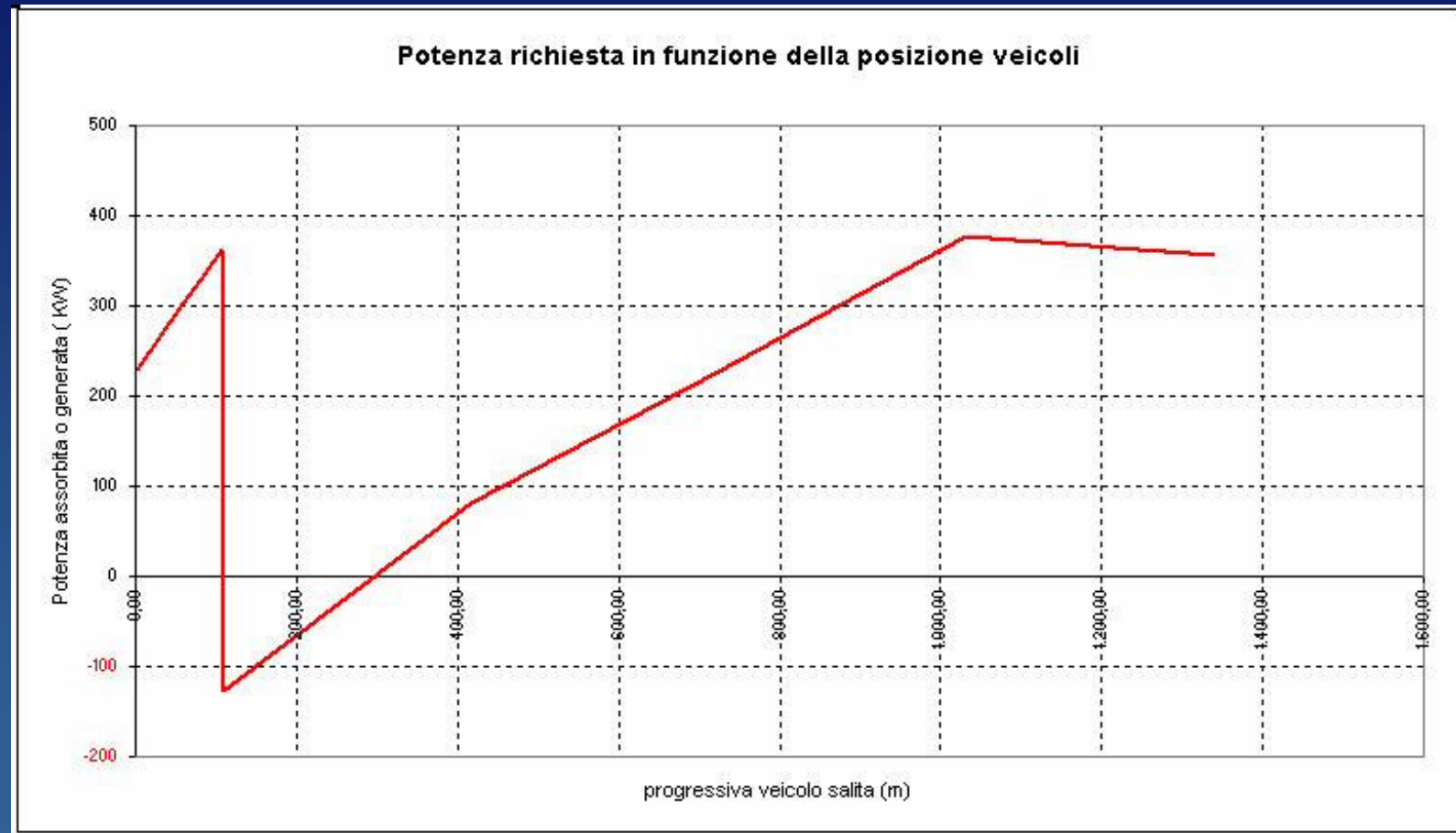
Pronto NUM

start MONOFUN.xls Arc_funi.xls Microsoft PowerPoint ... IT 12.24

Draw of the line automatically generated in Autocad: example



Graphical representation of the power requested function of the of vehicles along the rope line: example



The cableway design sw package specifically created for the Tempus project

The software has been prepared by Eng. Vittoriano Vitali – who works at the Autonomous Province of Trento (I), Cableway Systems Service, at the “Laboratorio Tecnologico Impianti a Fune” (LATIF) – with the collaboration of Dr. Eng. Bruno Dalla Chiara, lecturer of Project and Design of Transportation Systems at the Politecnico di Torino and contact person for the TEMPUS Project “ADVENTURES”. Prof. Kemo Sokolija coordinates the activities of the project for the University of Sarajevo.