

# The new modern trunk telecommunications network in Croatia

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## 1 Introduction

When Croatia gained her independence in 1990, the telecommunications network that she had was quite underdeveloped. This is best illustrated by several basic indicators of development given in Table 1.

By hard work and engagement of the "Hrvatska pošta i telekomunikacije" (Croatian Post and Telecommunications), in spite of the war and constant repairs due to war destruction, the situation in the Croatian telecommunications improved substantially

after the completion of the first medium-term development plan 1991-1995. This is best illustrated by the comparison of the same basic indicators of development (1995/1990), presented in Table 2.

As the capacity of the telecommunications network was growing according to the needs, it was at the same time being modernised both by restructuring, and by applying the latest technology - optical fibres as transmission medium, and by consistent and constant digitalisation of the commutation and transmission systems.

*Il presente articolo analizza e descrive la nuova struttura e capacità tecnica della rete di telecomunicazioni in Croazia. Tale rete, che risulta essenziale per lo sviluppo del sistema dei trasporti, è stata riorganizzata in modo da resistere maggiormente ai disturbi esterni. L'utilizzo di fibre ottiche ha consentito, inoltre, di incrementare in modo sostanziale la capacità di trasmissione della rete stessa.*

One of the most important elements of the telecommunications network in our country is obviously its trunk network connecting the centres of higher category and representing the backbone for a high-quality transmission of all kinds of information (voice, images, signals, data). The old structure of this network was quite uneconomic and susceptible to interruptions, and it was realised mainly by the today already obsolete coaxial cables (which have a relatively narrow scope of applications apart

from other drawbacks), and radio-relay systems, using analogue technology.

## 2 The new structure of the trunk network

The "Regulations on public telecommunications in the fixed network", introduced in 1995, has defined among other things, the new structure of the telecommunications network in Croatia. According to these regulations the hierarchical division into levels remained, but the levels were reduced from five to only three (Figure 1) as follows:

| Ord. No. | Indicator                                            | 1990 |
|----------|------------------------------------------------------|------|
| 1.       | density of telephone subscribers per 100 inhabitants | 17.2 |
| 2.       | digitalisation of the local commutation system       | 16 % |
| 3.       | digitalisation of the trunk commutation system       | 52 % |
| 4.       | digitalisation of the local transmission system      | 31 % |
| 5.       | digitalisation of the trunk transmission system      | 20 % |

Table 1

| Ord. No. | Indicator                                            | 1990   | 1995/1990 |
|----------|------------------------------------------------------|--------|-----------|
| 1.       | density of telephone subscribers per 100 inhabitants | 28.9   | +68 %     |
| 2.       | digitalisation of the local commutation system       | 50.7 % | +217 %    |
| 3.       | digitalisation of the trunk commutation system       | 95 %   | +82 %     |
| 4.       | digitalisation of the local transmission system      | 75 %   | +142 %    |
| 5.       | digitalisation of the trunk transmission system      | 89 %   | +345 %    |

Table 2

**INTERNATIONAL AND INTERCONTINENTAL NETWORK**

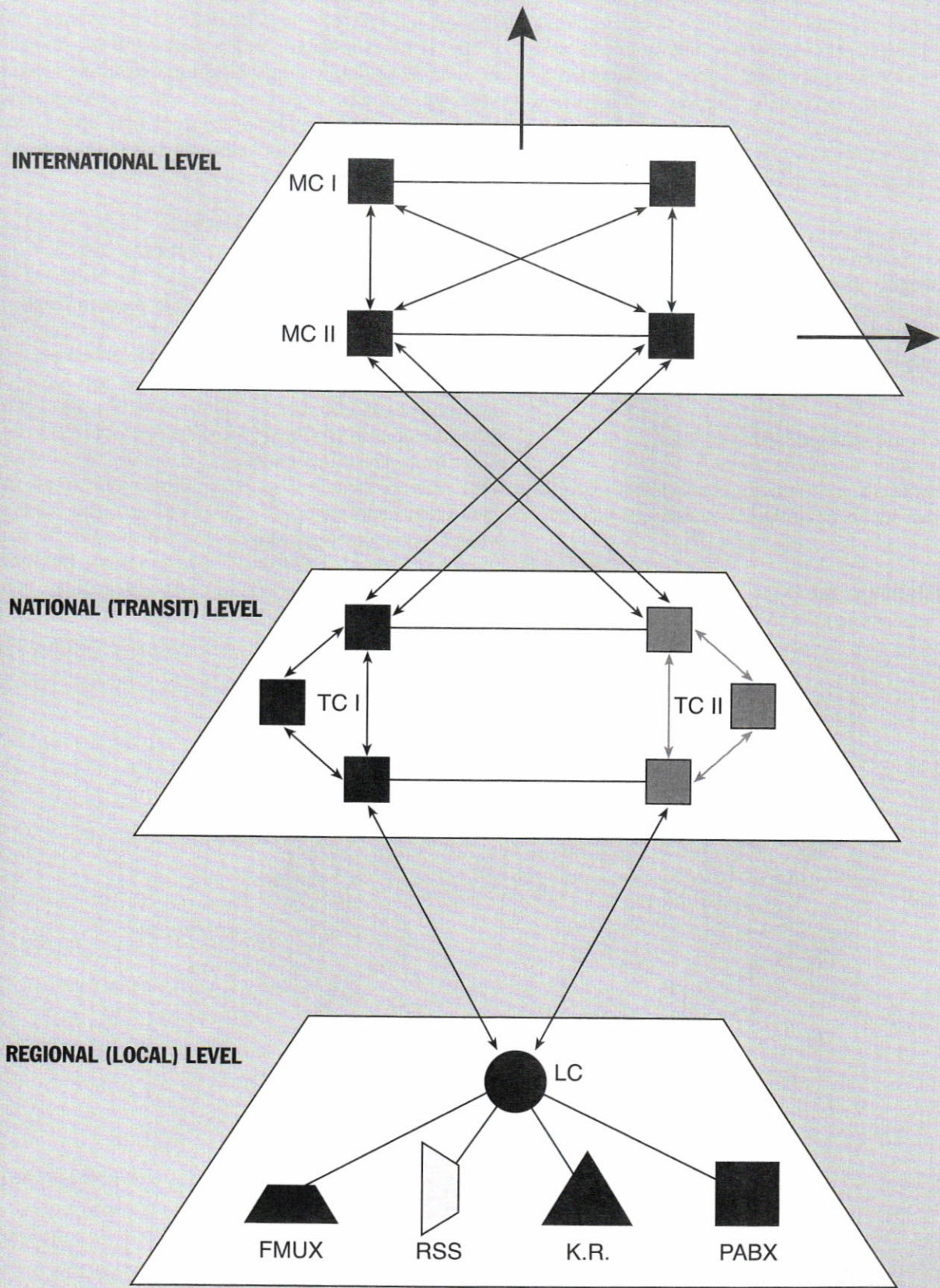


Figure 1 - Hierarchical structure of the new telecommunications network organisation