

One of the first programmes, for example, is a design for an airborne radar technology for detection and tracking of all airbreathing threats. The programme assumes that, in addition to an enhanced capability against current generation cruise missiles, future surveillance technologies must be effective against stealth technology. The intent is clearly to explore a variety of possibilities, including remotely piloted aircraft, airships, and, at the other end of the range, ground-based vehicles using existing UHF television towers. Considerable emphasis will be placed on the proliferation of low-cost sensors as the solution to the problem of survivability.

In the effort to intercept and destroy the cruise missile, emphasis is placed on both conventional manned interceptors with improved look-down/shoot-down capabilities, and on the development of ground-based long- and short-range interceptor missiles. Clearly, the short-range interceptors are compatible with the point defence of US strategic forces alluded to earlier as a possibility compatible with an ABM point defence. The long-range interceptor missiles inevitably point to forward basing in Canada since it must be assumed that a layered air defence would seek several opportunities to defeat the hostile bomber, beginning with the attack on the bomber itself, and continuing through the various phases of cruise missile flight. For example, the Defence Advanced Research Projects Agency (DARPA), in ADI-related work, is examining the feasibility of an interceptor missile with a range of 2000 miles and a speed of 7000 m.p.h., thus making Polar intercepts a foreseeable prospect. And finally, research in battle management will seek to link existing command and control systems with those required to control multiple platforms against multiple targets, once again emphasizing the survivability of command and control through all phases of a nuclear exchange.

The Air Defence Initiative is intended to permit demonstrations from late 1987 through 1988, with the determination of final systems architecture in 1990. Quite clearly, further steps would be closely related to decisions concerning SDI, but it is nevertheless possible that, by 1990, and long before the conclusion of the SDI research programme, technology demonstrations will have occurred that may make feasible dramatic changes in air defence. Despite the possibilities of technological leaps, however, in one sense, the prospect is a familiar one. All such systems imply the northward extension of the combat zone, and reaffirm the position of the Canadian North as the strategic foreground for the air defence of the continental United States.<sup>23</sup>

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<sup>23</sup> For example, the chief ADI planner has commented: "The focus of ADI is trying to engage the weapons carrier as far out as possible. . . . It's very similar to engaging ICBMs in the boost phase", *Military Space*, 13 October 1986. On the connection to SDI, see the comments of Francis P. Hoerber, a member of the DoD General Advisory Committee on Arms Control and Disarmament, who has noted that "the technologies of air and missile defence are converging at the margin as high tech air defences become somewhat capable against missiles", *SDI Monitor*, 8 September 1986.