```
/*
    GNU GENERAL PUBLIC LICENSE
    Version 3, 29 June 2007

    This program is free software: you can redistribute it and/or modify
    it under the terms of the GNU General Public License as published by
    the Free Software Foundation, either version 3 of the License, or
    (at your option) any later version.

    This program is distributed in the hope that it will be useful,
    but WITHOUT ANY WARRANTY; without even the implied warranty of
    MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
    GNU General Public License for more details.

    You should have received a copy of the GNU General Public License
    along with this program.  If not, see <http://www.gnu.org/licenses/>.

    Permissions beyond the scope of this license may be available at
    http://www.robopartans.com
*/

/*
        VERSION: 1.0.0-a

        This is the software program writen in NXC for Ship Nikita - a light moving robot
        developed in School of robotics "Robopartans". You could find
        further information, materials and videos of the robot on our site
        http://www.robopartans.com with direct link:
        http://www.robopartans.com/robots/ship/
*/

#define THRESHOLD 40
#define LEFT_SENS IN_2
#define RIGHT_SENS IN_4
#define BACK_SENS IN_3
#define MIN_POWER 20
#define MIN_PERCENTAGE_FROM_RANGE 10 // the minimun percentage that the new value must be greater then
the initial to init movement.

int initialValue = 0;

int valuesRange = 100;

sub config() {
        Wait(200);
        SetSensorType(BACK_SENS, SENSOR_TYPE_LIGHT_INACTIVE);
        SetSensorMode(BACK_SENS, SENSOR_MODE_PERCENT);

        SetSensorType(LEFT_SENS, SENSOR_TYPE_LIGHT_INACTIVE);
        SetSensorMode(LEFT_SENS, SENSOR_MODE_PERCENT);

        SetSensorType(RIGHT_SENS, SENSOR_TYPE_LIGHT_INACTIVE);
        SetSensorMode(RIGHT_SENS, SENSOR_MODE_PERCENT);
}

int average() {
        int result = 0;
        result += Sensor(LEFT_SENS);
        result += Sensor(BACK_SENS);
        result += Sensor(RIGHT_SENS);
        return result/3;
}

int max() {
        int max = Sensor(LEFT_SENS)>Sensor(BACK_SENS)? Sensor(LEFT_SENS):Sensor(BACK_SENS);
        return max>Sensor(RIGHT_SENS)? max:Sensor(RIGHT_SENS);
}
```

```
sub init() {
	Wait(50);
	int rep = 3;
	initialValue = max();
	valuesRange = 100 - initialValue;
}

sub valueOut(int line, string text, int value) {
	TextOut(0, line, text);
	NumOut(60, line, value);
}

sub displayValues() {
	int l = Sensor(LEFT_SENS);
	int b = Sensor(BACK_SENS);
	int r = Sensor(RIGHT_SENS);
	valueOut(LCD_LINE1, "Initial:", initialValue);
	valueOut(LCD_LINE2, "Left:", l);
	valueOut(LCD_LINE3, "Back:", b);
	valueOut(LCD_LINE4, "Right:", r);
}

int getPercentageFromRange(int value) {
	return (value*100)/valuesRange;
}

int getPower() {
	int m = max();
	int power = m - initialValue;
	int percent = getPercentageFromRange(power);
	if(percent > MIN_PERCENTAGE_FROM_RANGE) {
		return percent + MIN_POWER;
	}
	return 0;
}

int getTurnLeftToRight() {
	int l = Sensor(LEFT_SENS);
	int b = Sensor(BACK_SENS);
	int r = Sensor(RIGHT_SENS);
	int multiplier = 1;
	if(l>r) { //turn right because the wind is from the left is stronger then the wind from the right
		return l>b?(l-b)*multiplier:0;
	} else {
		return r>b?(-1)*(r-b)*multiplier:0;
	}
	return 0;
}

task main()
{
	config();
	init();
	int newPower = 0;
	int oldPower = 0;
	int finalPower = 0;
	int turn = 0;
	while(true) {
		displayValues();
		newPower = getPower();
		turn = getTurnLeftToRight();
		finalPower = (newPower + oldPower)/2;
		valueOut(LCD_LINE5, "New power:", newPower);
		valueOut(LCD_LINE6, "Old power:", oldPower);
		valueOut(LCD_LINE7, "Power:", finalPower);
		valueOut(LCD_LINE8, "Turn:", turn);
```

```
                oldPower = finalPower;
                if(finalPower>MIN_POWER)
                        OnRevSync(OUT_BC, finalPower, turn/2);
                else
                        Float(OUT_BC);
                Wait(1500);
                ClearScreen();
        }
}
```